

***JavaScript for Web Warriors 7th edition Carey Test
Bank***

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Chapter 1 - Introduction to Javascript

1. A key characteristic that sets scripting languages apart from other programming languages is that _____.
a. scripting languages must be compiled before they are run
b. scripting languages are run directly from a program, not compiled
c. non-scripting languages require an interpreter to run
d. non-scripting languages are not converted into machine code

ANSWER: b

FEEDBACK:

- a. Incorrect. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. Scripting languages need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. Before the instructions of a non-scripting programming language can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device.
- b. Correct. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. Scripting languages need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. Before the instructions of a non-scripting programming language can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device.
- c. Incorrect. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. Scripting languages need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. Before the instructions of a non-scripting programming language can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device.
- d. Incorrect. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. Scripting languages need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. Before the instructions of a non-scripting programming language can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.2 - Explain the use of compilers and compiling

KEYWORDS: Bloom's: Understand

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2. A(n) _____ transforms a set of instructions written in a programming language into machine code, which can be understood by a computer.

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- a. browser
- b. scripter
- c. interpreter
- d. compiler

ANSWER: d

FEEDBACK:

- a. Incorrect. Before the instructions written in a programming language can be performed, they need to be transformed into machine code that can be understood by the computer or computer device by a program called a compiler. This process is called compilation. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A JavaScript interpreter is built into every web browser, so to create a JavaScript program you only need a text editor to write the code and a web browser to run it.
- b. Incorrect. Before the instructions written in a programming language can be performed, they need to be transformed into machine code that can be understood by the computer or computer device by a program called a compiler. This process is called compilation. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A JavaScript interpreter is built into every web browser, so to create a JavaScript program you only need a text editor to write the code and a web browser to run it.
- c. Incorrect. Before the instructions written in a programming language can be performed, they need to be transformed into machine code that can be understood by the computer or computer device by a program called a compiler. This process is called compilation. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A JavaScript interpreter is built into every web browser, so to create a JavaScript program you only need a text editor to write the code and a web browser to run it.
- d. Correct. Before the instructions written in a programming language can be performed, they need to be transformed into machine code that can be understood by the computer or computer device by a program called a compiler. This process is called compilation. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A JavaScript interpreter is built into every web browser, so to create a JavaScript program you only need a text editor to write the code and a web browser to run it.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.2 - Explain the use of compilers and compiling

KEYWORDS: Bloom's: Understand

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3. A(n) _____ reads the code of a program line by line, scanning for errors, as the program is run.
- a. interpreter

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- b. compiler
- c. script
- d. CSS

ANSWER:

a

FEEDBACK:

- a. Correct. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. A programming language is a set of instructions directing the actions of the computer or computer device. For a non-scripting language, before these instructions can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device. CSS (Cascading Style Sheets) are used to define how a web page will appear on a specified device.
- b. Incorrect. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. A programming language is a set of instructions directing the actions of the computer or computer device. For a non-scripting language, before these instructions can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device. CSS (Cascading Style Sheets) are used to define how a web page will appear on a specified device.
- c. Incorrect. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. A programming language is a set of instructions directing the actions of the computer or computer device. For a non-scripting language, before these instructions can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device. CSS (Cascading Style Sheets) are used to define how a web page will appear on a specified device.
- d. Incorrect. Scripting languages, a subset of programming languages, need to be interpreted, in which the code is read line-by-line by an interpreter that scans the code for errors even as it runs. A scripting language belongs to a subcategory of programming languages that do not require compiling but instead are run directly from a program or script. A programming language is a set of instructions directing the actions of the computer or computer device. For a non-scripting language, before these instructions can be performed, they need to be compiled, a process by which those instructions are transformed into machine code that can be understood by the computer or computer device. CSS (Cascading Style Sheets) are used to define how a web page will appear on a specified device.

POINTS:

1

DIFFICULTY:

Moderate

REFERENCES:

1.1 Exploring the JavaScript Language

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.3 - Describe interpreters for scripting languages

KEYWORDS:

Bloom's: Understand

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4. Which statement is correct?

- a. A markup language called JavaScript provides tools for interacting with web pages.
- b. A scripting language called Java is used to create and compile web browsers.
- c. A markup language called HTML is used to define the content and structure of a web page.
- d. A scripting language called CSS is used to define how a web page will appear on a device.

ANSWER: c

FEEDBACK:

- a. Incorrect. Common markup languages include HTML (Hypertext Markup Language), used to define the content and structure of your web page, and CSS (Cascading Style Sheets), used to define how that web page will appear on a specified device. Examples of scripting languages include JavaScript, PHP, Perl, and Python. The browser that interacts with the web was created and compiled using a programming language like C++.
- b. Incorrect. Common markup languages include HTML (Hypertext Markup Language), used to define the content and structure of your web page, and CSS (Cascading Style Sheets), used to define how that web page will appear on a specified device. Examples of scripting languages include JavaScript, PHP, Perl, and Python. The browser that interacts with the web was created and compiled using a programming language like C++.
- c. Correct. Common markup languages include HTML (Hypertext Markup Language), used to define the content and structure of your web page, and CSS (Cascading Style Sheets), used to define how that web page will appear on a specified device. Examples of scripting languages include JavaScript, PHP, Perl, and Python. The browser that interacts with the web was created and compiled using a programming language like C++.
- d. Incorrect. Common markup languages include HTML (Hypertext Markup Language), used to define the content and structure of your web page, and CSS (Cascading Style Sheets), used to define how that web page will appear on a specified device. Examples of scripting languages include JavaScript, PHP, Perl, and Python. The browser that interacts with the web was created and compiled using a programming language like C++.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.4 - Compare scripting languages and markup languages

KEYWORDS: Bloom's: Understand

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5. JavaScript _____.

- a. was once supported by Internet Explorer only in a different form called JScript
- b. was developed by the European Computer Manufacturers Association
- c. has benefited from a single set of governing standards since it was introduced
- d. was not supported by major browsers for the first 11 years that it existed

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ANSWER: a

FEEDBACK:

- a. Correct. Shortly after its development, JavaScript was supported by Microsoft's Internet Explorer browser in a slightly different form called JScript. In the beginning, JavaScript was developed for the Netscape browser by the Netscape developer Brendan Eich. Unlike with a programming language such as C, from 1995 to 1997 there was no single set of governing standards for JavaScript.
- b. Incorrect. Shortly after its development, JavaScript was supported by Microsoft's Internet Explorer browser in a slightly different form called JScript. In the beginning, JavaScript was developed for the Netscape browser by the Netscape developer Brendan Eich. Unlike with a programming language such as C, from 1995 to 1997 there was no single set of governing standards for JavaScript.
- c. Incorrect. Shortly after its development, JavaScript was supported by Microsoft's Internet Explorer browser in a slightly different form called JScript. In the beginning, JavaScript was developed for the Netscape browser by the Netscape developer Brendan Eich. Unlike with a programming language such as C, from 1995 to 1997 there was no single set of governing standards for JavaScript.
- d. Incorrect. Shortly after its development, JavaScript was supported by Microsoft's Internet Explorer browser in a slightly different form called JScript. In the beginning, JavaScript was developed for the Netscape browser by the Netscape developer Brendan Eich. Unlike with a programming language such as C, from 1995 to 1997 there was no single set of governing standards for JavaScript.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.5 - Discuss the history of the development of JavaScript

KEYWORDS: Bloom's: Remember

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6. What is the relationship between JavaScript and ECMAScript?

- a. JavaScript and ECMAScript are two different scripting languages for web pages.
- b. JavaScript is the most important implementation of ECMAScript.
- c. ECMAScript is the most recent version of JavaScript.
- d. Changes to JavaScript are adopted by ECMAScript within a few years of their release.

ANSWER: b

FEEDBACK:

- a. Incorrect. JavaScript is just one implementation of the ECMAScript standard, but it is the most important. In 1997, a technical committee composed of developers from the major browser manufacturers was tasked with the goal of developing a set of standards for the language. The specification for this scripting language is called ECMAScript or ECMA-262. Every year a different version or edition of ECMAScript is released. Within a few years of release, most browsers will implement the changes in that edition.
- b. Correct. JavaScript is just one implementation of the ECMAScript standard, but it is the most important. In 1997, a technical committee composed of developers from the major browser manufacturers was tasked with the goal of developing a set of standards for the language. The specification for this scripting language is called ECMAScript or ECMA-262. Every year a different version or edition of

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ECMAScript is released. Within a few years of release, most browsers will implement the changes in that edition.

- c. Incorrect. JavaScript is just one implementation of the ECMAScript standard, but it is the most important. In 1997, a technical committee composed of developers from the major browser manufacturers was tasked with the goal of developing a set of standards for the language. The specification for this scripting language is called ECMAScript or ECMA-262. Every year a different version or edition of ECMAScript is released. Within a few years of release, most browsers will implement the changes in that edition.
- d. Incorrect. JavaScript is just one implementation of the ECMAScript standard, but it is the most important. In 1997, a technical committee composed of developers from the major browser manufacturers was tasked with the goal of developing a set of standards for the language. The specification for this scripting language is called ECMAScript or ECMA-262. Every year a different version or edition of ECMAScript is released. Within a few years of release, most browsers will implement the changes in that edition.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.6 - Discuss the relationship between JavaScript and ECMAScript

KEYWORDS: Bloom's: Understand

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7. The Document Object Model ____.

- a. is an important part of ECMAScript
- b. specifications are managed by the European Computer Manufacturers Association
- c. describes how to access the contents of a web page and user actions within that page
- d. describes how to access the features and behaviors of a browser

ANSWER: c

FEEDBACK:

- a. Incorrect. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser itself. ECMAScript is the scripting language, but it does not tell you how to interact with the contents of a website or the browser. The specifications for the DOM are managed by the World Wide Web Consortium (W3C), the same group managing the development of HTML and CSS.
- b. Incorrect. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser itself. ECMAScript is the scripting language, but it does not tell you how to interact with the contents of a website or the browser. The specifications for the DOM are managed by the World Wide Web Consortium (W3C), the same group managing the development of HTML and CSS.
- c. Correct. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser

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itself. ECMAScript is the scripting language, but it does not tell you how to interact with the contents of a website or the browser. The specifications for the DOM are managed by the World Wide Web Consortium (W3C), the same group managing the development of HTML and CSS.

- d. Incorrect. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser itself. ECMAScript is the scripting language, but it does not tell you how to interact with the contents of a website or the browser. The specifications for the DOM are managed by the World Wide Web Consortium (W3C), the same group managing the development of HTML and CSS.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.7 - Describe the fundamentals of the Document Object Model (DOM)

KEYWORDS: Bloom's: Understand

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8. Which statement about the BOM is correct?

- a. JavaScript does not directly interact with the BOM.
- b. A formal set of standards for the BOM is maintained by the W3C.
- c. The BOM describes how to access a web page's contents.
- d. The BOM is largely the same among the various browsers currently available.

ANSWER: d

- FEEDBACK:*
- a. Incorrect. Each browser is different and implements its own version of the BOM, but the BOM is largely the same from one browser to the next because it is to everyone's advantage to adhere to a common standard. There is no formal set of standards for the Browser Object Model. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser itself. The full implementation of JavaScript is built on three foundations: ECMAScript, the DOM, and the BOM.
 - b. Incorrect. Each browser is different and implements its own version of the BOM, but the BOM is largely the same from one browser to the next because it is to everyone's advantage to adhere to a common standard. There is no formal set of standards for the Browser Object Model. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser itself. The full implementation of JavaScript is built on three foundations: ECMAScript, the DOM, and the BOM.
 - c. Incorrect. Each browser is different and implements its own version of the BOM, but the BOM is largely the same from one browser to the next because it is to everyone's advantage to adhere to a common standard. There is no formal set of standards for the Browser Object Model. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser itself. The full implementation of JavaScript is built on three foundations: ECMAScript, the DOM, and the BOM.
 - d. Correct. Each browser is different and implements its own version of the BOM,

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but the BOM is largely the same from one browser to the next because it is to everyone's advantage to adhere to a common standard. There is no formal set of standards for the Browser Object Model. The Browser Object Model (BOM) describes how to access the features and behaviors of the browser itself. The full implementation of JavaScript is built on three foundations: ECMAScript, the DOM, and the BOM.

POINTS: 1
DIFFICULTY: Moderate
REFERENCES: 1.1 Exploring the JavaScript Language
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.1.8 - Describe the fundamentals of the Browser Object Model (BOM)
KEYWORDS: Bloom's: Understand
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9. What is an API?

- a. a system consisting of a client and a server
- b. a system for exchanging data on the web
- c. a set of procedures that access an application
- d. a scripting programming language

ANSWER: c

FEEDBACK:

- a. Incorrect. The Document Object Model and the Browser Object Model are examples of an Application Programming Interface (API), which is a set of procedures that access an application such as a web page or a web browser. Hypertext Transfer Protocol (HTTP) is the main system used on the web for exchanging data. A system consisting of a client and a server is known as a two-tier system. JavaScript, PHP, Perl, and Python are examples of scripting languages.
- b. Incorrect. The Document Object Model and the Browser Object Model are examples of an Application Programming Interface (API), which is a set of procedures that access an application such as a web page or a web browser. Hypertext Transfer Protocol (HTTP) is the main system used on the web for exchanging data. A system consisting of a client and a server is known as a two-tier system. JavaScript, PHP, Perl, and Python are examples of scripting languages.
- c. Correct. The Document Object Model and the Browser Object Model are examples of an Application Programming Interface (API), which is a set of procedures that access an application such as a web page or a web browser. Hypertext Transfer Protocol (HTTP) is the main system used on the web for exchanging data. A system consisting of a client and a server is known as a two-tier system. JavaScript, PHP, Perl, and Python are examples of scripting languages.
- d. Incorrect. The Document Object Model and the Browser Object Model are examples of an Application Programming Interface (API), which is a set of procedures that access an application such as a web page or a web browser. Hypertext Transfer Protocol (HTTP) is the main system used on the web for exchanging data. A system consisting of a client and a server is known as a two-tier system. JavaScript, PHP, Perl, and Python are examples of scripting languages.

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POINTS: 1
DIFFICULTY: Moderate
REFERENCES: 1.1 Exploring the JavaScript Language
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.1.9 - Describe the fundamentals of a Application Programming Interface (API)
KEYWORDS: Bloom's: Understand
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10. Which statement about a client/server architecture is correct?

- a. The server fulfills the client's information request.
- b. The server presents an interface to the user.
- c. The client usually houses any required databases.
- d. The client performs none of the required processing.

ANSWER: a

FEEDBACK:

- a. Correct. In traditional client/server architecture, the server is a device or application from which a client requests information. A server fulfills a request for information by managing the request or serving the requested information to the client—hence the term, “client/server.” One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. The main responsibilities of a server are usually data storage, management, and communicating with external services. As devices that are used to access web pages have become increasingly powerful, however, many client/server systems have placed increasing amounts of the processing responsibilities on the client.
- b. Incorrect. In traditional client/server architecture, the server is a device or application from which a client requests information. A server fulfills a request for information by managing the request or serving the requested information to the client—hence the term, “client/server.” One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. The main responsibilities of a server are usually data storage, management, and communicating with external services. As devices that are used to access web pages have become increasingly powerful, however, many client/server systems have placed increasing amounts of the processing responsibilities on the client.
- c. Incorrect. In traditional client/server architecture, the server is a device or application from which a client requests information. A server fulfills a request for information by managing the request or serving the requested information to the client—hence the term, “client/server.” One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. The main responsibilities of a server are usually data storage, management, and communicating with external services. As devices that are used to access web pages have become increasingly powerful, however, many client/server systems have placed increasing amounts of the processing responsibilities on the client.
- d. Incorrect. In traditional client/server architecture, the server is a device or application from which a client requests information. A server fulfills a request for information by managing the request or serving the requested information to the client—hence the term, “client/server.” One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. The main responsibilities of a server are usually data storage, management, and

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communicating with external services. As devices that are used to access web pages have become increasingly powerful, however, many client/server systems have placed increasing amounts of the processing responsibilities on the client.

POINTS: 1
DIFFICULTY: Moderate
REFERENCES: 1.1 Exploring the JavaScript Language
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.1.10 - Explain server/client systems
KEYWORDS: Bloom's: Analyze
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11. HTTP is important for the web's client/server system because _____.
a. it tells the client how to format data for the user
b. it provides the logic used by the server for processing data
c. it supplies the procedures needed to access applications
d. it is the protocol used for data exchange between the client and server

ANSWER: d

FEEDBACK:

- a. Incorrect. The requests and responses through which a web browser and web server communicate occur via Hypertext Transfer Protocol (HTTP), which is the main system used on the web for exchanging data. One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. On client/server systems, heavy processing, such as calculations, usually takes place on the server. An Application Programming Interface (API) is a set of procedures that access an application such as a web page or a web browser.
- b. Incorrect. The requests and responses through which a web browser and web server communicate occur via Hypertext Transfer Protocol (HTTP), which is the main system used on the web for exchanging data. One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. On client/server systems, heavy processing, such as calculations, usually takes place on the server. An Application Programming Interface (API) is a set of procedures that access an application such as a web page or a web browser.
- c. Incorrect. The requests and responses through which a web browser and web server communicate occur via Hypertext Transfer Protocol (HTTP), which is the main system used on the web for exchanging data. One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. On client/server systems, heavy processing, such as calculations, usually takes place on the server. An Application Programming Interface (API) is a set of procedures that access an application such as a web page or a web browser.
- d. Correct. The requests and responses through which a web browser and web server communicate occur via Hypertext Transfer Protocol (HTTP), which is the main system used on the web for exchanging data. One of the primary roles of the client, or front end, in a two-tier system is the presentation of an interface to the user. On client/server systems, heavy processing, such as calculations, usually takes place on the server. An Application Programming Interface (API) is a set of procedures that access an application such as a web page or a web browser.

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browser.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.11 - Relate client/server architecture to Hypertext Transfer Protocol (HTTP)

KEYWORDS: Bloom's: Analyze

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12. What is the key difference between a two-tier and a three-tier client/server system?

- a. In a three-tier system, the client is split into a user interface tier and a data exchange tier.
- b. In a three-tier system, the database is split into a processing tier and a data storage tier.
- c. A three-tier system must include three physical computers rather than two.
- d. More of the processing in a three-tier system is performed by the client.

ANSWER: b

FEEDBACK:

- a. Incorrect. For a three-tier system, the database portion of the two-tier client/server system is split into a processing tier and the data storage tier. Thus, a three-tier client/server system consists of three distinct pieces: the client tier, the processing tier, and the data storage tier. The processing tier, or middle tier, handles the interaction between the web browser client and the data storage tier. The web browser (client tier) still renders web page documents (which requires processing), and the database or application in the data storage tier might also perform some processing. Two-tier client/server architecture is a physical arrangement in which the client and server are two separate computers. Three-tier client/server architecture is more conceptual than physical, because the storage tier can be located on the same server.
- b. Correct. For a three-tier system, the database portion of the two-tier client/server system is split into a processing tier and the data storage tier. Thus, a three-tier client/server system consists of three distinct pieces: the client tier, the processing tier, and the data storage tier. The processing tier, or middle tier, handles the interaction between the web browser client and the data storage tier. The web browser (client tier) still renders web page documents (which requires processing), and the database or application in the data storage tier might also perform some processing. Two-tier client/server architecture is a physical arrangement in which the client and server are two separate computers. Three-tier client/server architecture is more conceptual than physical, because the storage tier can be located on the same server.
- c. Incorrect. For a three-tier system, the database portion of the two-tier client/server system is split into a processing tier and the data storage tier. Thus, a three-tier client/server system consists of three distinct pieces: the client tier, the processing tier, and the data storage tier. The processing tier, or middle tier, handles the interaction between the web browser client and the data storage tier. The web browser (client tier) still renders web page documents (which requires processing), and the database or application in the data storage tier might also perform some processing. Two-tier client/server architecture is a physical arrangement in which the client and server are two separate computers. Three-tier client/server architecture is more conceptual than physical, because the

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storage tier can be located on the same server.

- d. Incorrect. For a three-tier system, the database portion of the two-tier client/server system is split into a processing tier and the data storage tier. Thus, a three-tier client/server system consists of three distinct pieces: the client tier, the processing tier, and the data storage tier. The processing tier, or middle tier, handles the interaction between the web browser client and the data storage tier. The web browser (client tier) still renders web page documents (which requires processing), and the database or application in the data storage tier might also perform some processing. Two-tier client/server architecture is a physical arrangement in which the client and server are two separate computers. Three-tier client/server architecture is more conceptual than physical, because the storage tier can be located on the same server.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.12 - Describe two-tier and three-tier processing systems

KEYWORDS: Bloom's: Analyze

DATE CREATED: 7/5/2021 2:48 PM

DATE MODIFIED: 7/16/2021 12:02 PM

13. Server-side scripting is used to _____.

- a. access or manipulate the user's web browser
- b. directly access a database on a system's back end
- c. handle the processing needed to display a user interface
- d. translate a request from a client into HTML

ANSWER: b

FEEDBACK:

- a. Incorrect. If you want to access a database on a web server, you must use a server-side script. On the other hand, without JavaScript, a server-side scripting language can't access or manipulate the user's web browser. When a client requests a server-side script, the script is interpreted and executed by the scripting engine within the web server software. After the script finishes executing, the web server software translates the results of the script (such as the result of a calculation or the records returned from a database) into HTML, which it then returns to the client. The web browser (client tier) renders web page documents (which requires processing).
- b. Correct. If you want to access a database on a web server, you must use a server-side script. On the other hand, without JavaScript, a server-side scripting language can't access or manipulate the user's web browser. When a client requests a server-side script, the script is interpreted and executed by the scripting engine within the web server software. After the script finishes executing, the web server software translates the results of the script (such as the result of a calculation or the records returned from a database) into HTML, which it then returns to the client. The web browser (client tier) renders web page documents (which requires processing).
- c. Incorrect. If you want to access a database on a web server, you must use a server-side script. On the other hand, without JavaScript, a server-side scripting language can't access or manipulate the user's web browser. When a client requests a server-side script, the script is interpreted and executed by the

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scripting engine within the web server software. After the script finishes executing, the web server software translates the results of the script (such as the result of a calculation or the records returned from a database) into HTML, which it then returns to the client. The web browser (client tier) renders web page documents (which requires processing).

- d. Incorrect. If you want to access a database on a web server, you must use a server-side script. On the other hand, without JavaScript, a server-side scripting language can't access or manipulate the user's web browser. When a client requests a server-side script, the script is interpreted and executed by the scripting engine within the web server software. After the script finishes executing, the web server software translates the results of the script (such as the result of a calculation or the records returned from a database) into HTML, which it then returns to the client. The web browser (client tier) renders web page documents (which requires processing).

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.13 - Describe the fundamentals of client-side and server-side scripting

KEYWORDS: Bloom's: Understand

DATE CREATED: 7/5/2021 2:51 PM

DATE MODIFIED: 7/16/2021 12:02 PM

14. Which of the following languages is used for server-side scripting?

- a. HTML
- b. JavaScript
- c. Ruby
- d. Java

ANSWER: c

FEEDBACK:

- a. Incorrect. Some of the more popular server-side scripting languages are PHP, ASP.NET, Python, and Ruby. Common markup languages include HTML (Hypertext Markup Language) used to define the content and structure of your web page and CSS (Cascading Style Sheets) used to define how that web page will appear on a specified device. JavaScript provides client-side scripting in which the scripting language runs on a local browser (on the client tier) instead of on a web server (on the processing tier). Java is an advanced programming language that was created by Sun Microsystems and is considerably more difficult to master than JavaScript. Although Java can be used to create programs that can run from a web page, Java programs are usually external programs that execute independently of a browser.
- b. Incorrect. Some of the more popular server-side scripting languages are PHP, ASP.NET, Python, and Ruby. Common markup languages include HTML (Hypertext Markup Language) used to define the content and structure of your web page and CSS (Cascading Style Sheets) used to define how that web page will appear on a specified device. JavaScript provides client-side scripting in which the scripting language runs on a local browser (on the client tier) instead of on a web server (on the processing tier). Java is an advanced programming language that was created by Sun Microsystems and is considerably more difficult to master than JavaScript. Although Java can be used to create programs

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that can run from a web page, Java programs are usually external programs that execute independently of a browser.

- c. Correct. Some of the more popular server-side scripting languages are PHP, ASP.NET, Python, and Ruby. Common markup languages include HTML (Hypertext Markup Language) used to define the content and structure of your web page and CSS (Cascading Style Sheets) used to define how that web page will appear on a specified device. JavaScript provides client-side scripting in which the scripting language runs on a local browser (on the client tier) instead of on a web server (on the processing tier). Java is an advanced programming language that was created by Sun Microsystems and is considerably more difficult to master than JavaScript. Although Java can be used to create programs that can run from a web page, Java programs are usually external programs that execute independently of a browser.
- d. Incorrect. Some of the more popular server-side scripting languages are PHP, ASP.NET, Python, and Ruby. Common markup languages include HTML (Hypertext Markup Language) used to define the content and structure of your web page and CSS (Cascading Style Sheets) used to define how that web page will appear on a specified device. JavaScript provides client-side scripting in which the scripting language runs on a local browser (on the client tier) instead of on a web server (on the processing tier). Java is an advanced programming language that was created by Sun Microsystems and is considerably more difficult to master than JavaScript. Although Java can be used to create programs that can run from a web page, Java programs are usually external programs that execute independently of a browser.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.14 - Relate server-side scripting to the PHP, Python, and Ruby One languages

KEYWORDS: Bloom's: Understand

DATE CREATED: 7/5/2021 2:52 PM

DATE MODIFIED: 7/16/2021 12:02 PM

15. Using client-side scripting to handle light processing tasks such as data validation ____.

- a. minimizes transfer times across the Internet, making web applications faster
- b. confines processing to fewer hardware devices, limiting processing power
- c. increases server resource requirements and the related infrastructure costs
- d. is not possible, as you must use server-side scripting to validate forms

ANSWER: a

FEEDBACK: a. Correct. A general rule of thumb is to allow the client to handle the user interface processing and light processing, such as data validation, but have the web server perform intensive calculations and data storage. Local processing on client computers minimizes transfer times across the Internet and creates faster applications. There are tasks that both client-side and server-side scripting languages can accomplish, such as validating forms and manipulating cookies. Performing processing on client computers decreases the amount of server resources needed by application providers, decreasing costs for infrastructure and power use.

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- b. Incorrect. A general rule of thumb is to allow the client to handle the user interface processing and light processing, such as data validation, but have the web server perform intensive calculations and data storage. Local processing on client computers minimizes transfer times across the Internet and creates faster applications. There are tasks that both client-side and server-side scripting languages can accomplish, such as validating forms and manipulating cookies. Performing processing on client computers decreases the amount of server resources needed by application providers, decreasing costs for infrastructure and power use.
- c. Incorrect. A general rule of thumb is to allow the client to handle the user interface processing and light processing, such as data validation, but have the web server perform intensive calculations and data storage. Local processing on client computers minimizes transfer times across the Internet and creates faster applications. There are tasks that both client-side and server-side scripting languages can accomplish, such as validating forms and manipulating cookies. Performing processing on client computers decreases the amount of server resources needed by application providers, decreasing costs for infrastructure and power use.
- d. Incorrect. A general rule of thumb is to allow the client to handle the user interface processing and light processing, such as data validation, but have the web server perform intensive calculations and data storage. Local processing on client computers minimizes transfer times across the Internet and creates faster applications. There are tasks that both client-side and server-side scripting languages can accomplish, such as validating forms and manipulating cookies. Performing processing on client computers decreases the amount of server resources needed by application providers, decreasing costs for infrastructure and power use.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.1 Exploring the JavaScript Language

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.1.15 - Compare the advantages and disadvantages of client-side vs. server-side scripting

KEYWORDS: Bloom's: Analyze

DATE CREATED: 7/5/2021 2:54 PM

DATE MODIFIED: 7/16/2021 12:02 PM

16. What is the role of the IDE in a JavaScript developer's workflow?
- a. It describes how to access the contents of and user interactions with web pages.
 - b. It is a component of a web browser responsible for enforcing security restrictions.
 - c. It provides a means for accessing and manipulating a back-end database using JavaScript.
 - d. It is used to manage all aspects of website development, including writing and testing code.

ANSWER: d

FEEDBACK:

- a. Incorrect. You can also use an Integrated Development Environment (IDE) to manage all of the facets of website development, including the writing and testing of JavaScript code. For security reasons, the JavaScript programming language cannot be used outside of specific environments, the most common of which is a web browser. JavaScript itself and browsers both limit JavaScript's access to files as a security measure. In addition, you cannot use JavaScript to interact directly

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with web servers that operate at the processing tier; if you want to access a database on a web server, you must use a server-side script. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page.

- b. Incorrect. You can also use an Integrated Development Environment (IDE) to manage all of the facets of website development, including the writing and testing of JavaScript code. For security reasons, the JavaScript programming language cannot be used outside of specific environments, the most common of which is a web browser. JavaScript itself and browsers both limit JavaScript's access to files as a security measure. In addition, you cannot use JavaScript to interact directly with web servers that operate at the processing tier; if you want to access a database on a web server, you must use a server-side script. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page.
- c. Incorrect. You can also use an Integrated Development Environment (IDE) to manage all of the facets of website development, including the writing and testing of JavaScript code. For security reasons, the JavaScript programming language cannot be used outside of specific environments, the most common of which is a web browser. JavaScript itself and browsers both limit JavaScript's access to files as a security measure. In addition, you cannot use JavaScript to interact directly with web servers that operate at the processing tier; if you want to access a database on a web server, you must use a server-side script. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page.
- d. Correct. You can also use an Integrated Development Environment (IDE) to manage all of the facets of website development, including the writing and testing of JavaScript code. For security reasons, the JavaScript programming language cannot be used outside of specific environments, the most common of which is a web browser. JavaScript itself and browsers both limit JavaScript's access to files as a security measure. In addition, you cannot use JavaScript to interact directly with web servers that operate at the processing tier; if you want to access a database on a web server, you must use a server-side script. The Document Object Model (DOM) describes how to access the contents of the web page and user actions within that page.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.2 Writing a JavaScript Program

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.2.1 - Explain the fundamentals of an Integrated Development Environment (IDE) for website development

KEYWORDS: Bloom's: Understand

DATE CREATED: 7/5/2021 2:58 PM

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17. A code editor _____.

- a. is considered a poor choice for combined JavaScript, HTML, and CSS development
- b. is typically more expensive to purchase than development environment software
- c. is an alternate name for a basic text editor, which can be used to write JavaScript
- d. color codes the entered text to denote JavaScript keywords and user-defined values

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ANSWER: d

FEEDBACK:

- a. Incorrect. Code editors include a number of features that make coding easier, including numbering the lines of code in a document and color coding text based on meaning—for instance, displaying JavaScript keywords in one color and user-defined text and values in another. If you find an IDE to be either too expensive or containing too much overhead for your projects, you might be better suited with a code editor that simply manages the writing of HTML, CSS, and JavaScript code within a graphical interface. Several good free code editors are available online.
- b. Incorrect. Code editors include a number of features that make coding easier, including numbering the lines of code in a document and color coding text based on meaning—for instance, displaying JavaScript keywords in one color and user-defined text and values in another. If you find an IDE to be either too expensive or containing too much overhead for your projects, you might be better suited with a code editor that simply manages the writing of HTML, CSS, and JavaScript code within a graphical interface. Several good free code editors are available online.
- c. Incorrect. Code editors include a number of features that make coding easier, including numbering the lines of code in a document and color coding text based on meaning—for instance, displaying JavaScript keywords in one color and user-defined text and values in another. If you find an IDE to be either too expensive or containing too much overhead for your projects, you might be better suited with a code editor that simply manages the writing of HTML, CSS, and JavaScript code within a graphical interface. Several good free code editors are available online.
- d. Correct. Code editors include a number of features that make coding easier, including numbering the lines of code in a document and color coding text based on meaning—for instance, displaying JavaScript keywords in one color and user-defined text and values in another. If you find an IDE to be either too expensive or containing too much overhead for your projects, you might be better suited with a code editor that simply manages the writing of HTML, CSS, and JavaScript code within a graphical interface. Several good free code editors are available online.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.2 Writing a JavaScript Program

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22. 1.2.2 - Identify the characteristics of a code editor for website development

KEYWORDS: Bloom's: Understand

DATE CREATED: 7/5/2021 2:59 PM

DATE MODIFIED: 7/16/2021 12:02 PM

18. What code lines would you place before and after a set of JavaScript statements to embed them in an HTML file?

- a. `<script>` and `</script>`
- b. `script.execute;` { and }
- c. `<javascript>` and `</javascript>`
- d. `/*` and `*/`

ANSWER: a

FEEDBACK:

- a. Correct. JavaScript can be added to a web page by embedding the code within the following script element:

```
<script>  
  statements
```

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`</script>`

where *statements* are the individual lines of code in the JavaScript program.

`/*` and `*/` are used before and after a block comment in a JavaScript program.

- b. Incorrect. JavaScript can be added to a web page by embedding the code within the following script element:

`<script>`

statements

`</script>`

where *statements* are the individual lines of code in the JavaScript program.

`/*` and `*/` are used before and after a block comment in a JavaScript program.

- c. Incorrect. JavaScript can be added to a web page by embedding the code within the following script element:

`<script>`

statements

`</script>`

where *statements* are the individual lines of code in the JavaScript program.

`/*` and `*/` are used before and after a block comment in a JavaScript program.

- d. Incorrect. JavaScript can be added to a web page by embedding the code within the following script element:

`<script>`

statements

`</script>`

where *statements* are the individual lines of code in the JavaScript program.

`/*` and `*/` are used before and after a block comment in a JavaScript program.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.2 Writing a JavaScript Program

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.2.3 - Insert a script element into an HTML file

KEYWORDS: Bloom's: Create

DATE CREATED: 7/5/2021 3:01 PM

DATE MODIFIED: 7/19/2021 2:13 PM

19. Programmers are not required to end JavaScript statements with semicolons, but it is considered good practice to do so.

a. True

b. False

ANSWER: True

FEEDBACK: *Correct* JavaScript statements are not required to end in semicolons. Semicolons are strictly necessary only when you want to separate statements that are written on a single line. However, it is considered good JavaScript programming practice to end every statement with a semicolon whether strictly required or not.

Incorrect JavaScript statements are not required to end in semicolons. Semicolons are strictly necessary only when you want to separate statements that are written on a single line. However, it is considered good JavaScript programming practice to end every statement with a semicolon whether strictly required or not.

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POINTS: 1
DIFFICULTY: Easy
REFERENCES: 1.2 Writing a JavaScript Program
QUESTION TYPE: True / False
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.2.4 - Explain the syntax of a JavaScript statement
KEYWORDS: Bloom's: Apply
DATE CREATED: 7/5/2021 3:04 PM
DATE MODIFIED: 7/16/2021 12:02 PM

20. Which of the following is a characteristic of an object used in JavaScript programming?

- a. includes procedures but not attributes
- b. includes attributes but not procedures
- c. includes both programming code and data
- d. always unique to and created for the program

ANSWER: c

FEEDBACK:

- a. Incorrect. An object is programming code and data that can be treated as an individual unit or component. The procedures associated with an object are called methods. A property is a piece of data, such as a color or a name, which is associated with an object. Some objects, such as the `Document` object, are part of a document by definition. You can also create other objects that are necessary for the programs you want to create.
- b. Incorrect. An object is programming code and data that can be treated as an individual unit or component. The procedures associated with an object are called methods. A property is a piece of data, such as a color or a name, which is associated with an object. Some objects, such as the `Document` object, are part of a document by definition. You can also create other objects that are necessary for the programs you want to create.
- c. Correct. An object is programming code and data that can be treated as an individual unit or component. The procedures associated with an object are called methods. A property is a piece of data, such as a color or a name, which is associated with an object. Some objects, such as the `Document` object, are part of a document by definition. You can also create other objects that are necessary for the programs you want to create.
- d. Incorrect. An object is programming code and data that can be treated as an individual unit or component. The procedures associated with an object are called methods. A property is a piece of data, such as a color or a name, which is associated with an object. Some objects, such as the `Document` object, are part of a document by definition. You can also create other objects that are necessary for the programs you want to create.

POINTS: 1
DIFFICULTY: Moderate
REFERENCES: 1.2 Writing a JavaScript Program
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False

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LEARNING OBJECTIVES: JASC.CARE.22.1.2.5 - Describe the principles of JavaScript objects

KEYWORDS: Bloom's: Understand

DATE CREATED: 7/5/2021 3:04 PM

DATE MODIFIED: 7/19/2021 2:33 PM

21. Which JavaScript statement assigns the value 3.49 to the price property of the hotChocolate object?

- a. `hotChocolate.write(price, 3.49);`
- b. `hotChocolate.price = 3.49;`
- c. `hotChocolate.price(3.49);`
- d. `price.hotChocolate = 3.49`

ANSWER: b

FEEDBACK:

- a. Incorrect. You use an object's properties in much the same way you use a method, by appending the property name to the object with a period. You assign a value to a property using an equal sign, as in the following example: `carLoan.interest = .0349;`
- b. Correct. You use an object's properties in much the same way you use a method, by appending the property name to the object with a period. You assign a value to a property using an equal sign, as in the following example: `carLoan.interest = .0349;`
- c. Incorrect. You use an object's properties in much the same way you use a method, by appending the property name to the object with a period. You assign a value to a property using an equal sign, as in the following example: `carLoan.interest = .0349;`
- d. Incorrect. You use an object's properties in much the same way you use a method, by appending the property name to the object with a period. You assign a value to a property using an equal sign, as in the following example: `carLoan.interest = .0349;`

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.2 Writing a JavaScript Program

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.2.6 - Identify the syntax of JavaScript properties

KEYWORDS: Bloom's: Analyze

DATE CREATED: 7/5/2021 3:05 PM

DATE MODIFIED: 7/19/2021 2:31 PM

22. Which JavaScript statement calls a method associated with the hotChocolate object, passing the argument 1 to this method?

- a. `hotChocolate.addToOrder(1);`
- b. `hotChocolate.addToOrder = 1;`
- c. `addToOrder.hotChocolate(1);`
- d. `method.hotChocolate(addToOrder, 1);`

ANSWER: a

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FEEDBACK:

- a. Correct. To incorporate an object and an associated method in JavaScript code, type the object's name, followed by a period, followed by the method. For many methods, you also need to provide some more specific information, called an argument, between the parentheses. For example, the `calcPayments()` method may require an argument that specifies the number of months until the loan is paid off. In that case, the JavaScript statement would look like this: `carLoan.calcPayments(60);`
- b. Incorrect. To incorporate an object and an associated method in JavaScript code, type the object's name, followed by a period, followed by the method. For many methods, you also need to provide some more specific information, called an argument, between the parentheses. For example, the `calcPayments()` method may require an argument that specifies the number of months until the loan is paid off. In that case, the JavaScript statement would look like this: `carLoan.calcPayments(60);`
- c. Incorrect. To incorporate an object and an associated method in JavaScript code, type the object's name, followed by a period, followed by the method. For many methods, you also need to provide some more specific information, called an argument, between the parentheses. For example, the `calcPayments()` method may require an argument that specifies the number of months until the loan is paid off. In that case, the JavaScript statement would look like this: `carLoan.calcPayments(60);`
- d. Incorrect. To incorporate an object and an associated method in JavaScript code, type the object's name, followed by a period, followed by the method. For many methods, you also need to provide some more specific information, called an argument, between the parentheses. For example, the `calcPayments()` method may require an argument that specifies the number of months until the loan is paid off. In that case, the JavaScript statement would look like this: `carLoan.calcPayments(60);`

POINTS:

1

DIFFICULTY:

Moderate

REFERENCES:

1.2 Writing a JavaScript Program

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

False

LEARNING OBJECTIVES: JASC.CARE.22.1.2.7 - Identify the syntax of JavaScript methods

KEYWORDS:

Bloom's: Analyze

DATE CREATED:

7/5/2021 3:07 PM

DATE MODIFIED:

7/19/2021 2:33 PM

23. In JavaScript, _____.

- a. the statement `document.write(True);` instructs the browser to execute the following block of code within a web page
- b. the statement `document.write("Today's special: dumplings!");` can be used to display a message on a web page
- c. the `document.write()` method should be used to display static text in a web browser when a document is first rendered
- d. the `document.write()` method should be used only for large blocks of content and should be placed in a

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separate file, not embedded in an HTML file

ANSWER: b

FEEDBACK:

- a. Incorrect. The `write()` method can be used to display text in a web browser. The text string argument of the `write()` method specifies the text that the `Document` object uses to create new text on a web page. For example, `document.write("Plant choices");` writes the text "Plant choices" in the web page (without the quotation marks). However, if you simply want to display text in a web browser when the document is first rendered, there is no need to use anything but standard HTML elements. The only reason to use the `write()` method is to add new text to a web page while it is being loaded by the browser. A good rule of thumb is to use `document.write()` only for small snippets of content and only placed within a script embedded in the HTML file itself.
- b. Correct. The `write()` method can be used to display text in a web browser. The text string argument of the `write()` method specifies the text that the `Document` object uses to create new text on a web page. For example, `document.write("Plant choices");` writes the text "Plant choices" in the web page (without the quotation marks). However, if you simply want to display text in a web browser when the document is first rendered, there is no need to use anything but standard HTML elements. The only reason to use the `write()` method is to add new text to a web page while it is being loaded by the browser. A good rule of thumb is to use `document.write()` only for small snippets of content and only placed within a script embedded in the HTML file itself.
- c. Incorrect. The `write()` method can be used to display text in a web browser. The text string argument of the `write()` method specifies the text that the `Document` object uses to create new text on a web page. For example, `document.write("Plant choices");` writes the text "Plant choices" in the web page (without the quotation marks). However, if you simply want to display text in a web browser when the document is first rendered, there is no need to use anything but standard HTML elements. The only reason to use the `write()` method is to add new text to a web page while it is being loaded by the browser. A good rule of thumb is to use `document.write()` only for small snippets of content and only placed within a script embedded in the HTML file itself.
- d. Incorrect. The `write()` method can be used to display text in a web browser. The text string argument of the `write()` method specifies the text that the `Document` object uses to create new text on a web page. For example, `document.write("Plant choices");` writes the text "Plant choices" in the web page (without the quotation marks). However, if you simply want to display text in a web browser when the document is first rendered, there is no need to use anything but standard HTML elements. The only reason to use the `write()` method is to add new text to a web page while it is being loaded by the browser. A good rule of thumb is to use `document.write()` only for small snippets of content and only placed within a script embedded in the HTML file itself.

POINTS: 1

DIFFICULTY: Difficult

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REFERENCES: 1.2 Writing a JavaScript Program

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.2.8 -
Write content into a web page using the `document.write()` method

KEYWORDS: Bloom's: Create

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24. When naming and using variables in JavaScript, you should remember that _____.

- a. Shelter and HomelessPet are appropriate for object names
- b. the interpreter will still recognize the variable called `shelter` if you capitalize it as `SHELTER`
- c. you cannot assign identifiers that include capital letters, such as `homelessPet`, to variables
- d. `shelter` and `homelesspet` are appropriate names for objects

ANSWER: d

FEEDBACK:

- a. Incorrect. Within JavaScript code, object names must always be all lowercase, so `shelter` and `homelesspet` are appropriate names for objects (but `Shelter` and `HomelessPet` are not). JavaScript is a case-sensitive language, interpreting differences in capitalization as differences in meaning, so `shelter` and `SHELTER` would be treated as two different variable names. When naming variables, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name, with subsequent words starting with an initial cap.
- b. Incorrect. Within JavaScript code, object names must always be all lowercase, so `shelter` and `homelesspet` are appropriate names for objects (but `Shelter` and `HomelessPet` are not). JavaScript is a case-sensitive language, interpreting differences in capitalization as differences in meaning, so `shelter` and `SHELTER` would be treated as two different variable names. When naming variables, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name, with subsequent words starting with an initial cap.
- c. Incorrect. Within JavaScript code, object names must always be all lowercase, so `shelter` and `homelesspet` are appropriate names for objects (but `Shelter` and `HomelessPet` are not). JavaScript is a case-sensitive language, interpreting differences in capitalization as differences in meaning, so `shelter` and `SHELTER` would be treated as two different variable names. When naming variables, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name, with subsequent words starting with an initial cap.
- d. Correct. Within JavaScript code, object names must always be all lowercase, so `shelter` and `homelesspet` are appropriate names for objects (but `Shelter` and `HomelessPet` are not). JavaScript is a case-sensitive language, interpreting differences in capitalization as differences in meaning, so `shelter` and `SHELTER` would be treated as two different variable names. When naming variables, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name,

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with subsequent words starting with an initial cap.

POINTS:	1
DIFFICULTY:	Difficult
REFERENCES:	1.2 Writing a JavaScript Program
QUESTION TYPE:	Multiple Choice
HAS VARIABLES:	False
LEARNING OBJECTIVES:	JASC.CARE.22.1.2.9 - Learn good coding practices for naming JavaScript variables
KEYWORDS:	Bloom's: Analyze
DATE CREATED:	7/5/2021 3:11 PM
DATE MODIFIED:	7/19/2021 2:37 PM

25. What would you place in the blank in the following JavaScript code to insert a note for other programmers to read that the interpreter would ignore?

```
<script>
    document.write("Today's stock prices"); _____
</script>
a. ** Need to replace with dynamic content
b. {Need to replace with dynamic content}
c. // Need to replace with dynamic content
d. /* Need to replace with dynamic content //
```

ANSWER: c

FEEDBACK:

- Incorrect. A line comment like the one described in the question occupies only a single line or part of a line. To create a line comment, you add two slashes (//) before the text you want to use as a comment. The // characters instruct JavaScript interpreters to ignore all text following the slashes on the same line. Block comments hide multiple lines of code. You create a block comment by adding /* to the first line that you want included in the block, and you close a comment block by typing */ after the last character in the block. Any text or lines between the opening /* characters and the closing */ characters are ignored by JavaScript interpreters.
- Incorrect. A line comment like the one described in the question occupies only a single line or part of a line. To create a line comment, you add two slashes (//) before the text you want to use as a comment. The // characters instruct JavaScript interpreters to ignore all text following the slashes on the same line. Block comments hide multiple lines of code. You create a block comment by adding /* to the first line that you want included in the block, and you close a comment block by typing */ after the last character in the block. Any text or lines between the opening /* characters and the closing */ characters are ignored by JavaScript interpreters.
- Correct. A line comment like the one described in the question occupies only a single line or part of a line. To create a line comment, you add two slashes (//) before the text you want to use as a comment. The // characters instruct JavaScript interpreters to ignore all text following the slashes on the same line. Block comments hide multiple lines of code. You create a block comment by adding /* to the first line that you want included in the block, and you close a comment block by typing */ after the last character in the block. Any text or lines between the opening /* characters and the closing */ characters are ignored by JavaScript interpreters.
- Incorrect. A line comment like the one described in the question occupies only a

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single line or part of a line. To create a line comment, you add two slashes (//) before the text you want to use as a comment. The // characters instruct JavaScript interpreters to ignore all text following the slashes on the same line. Block comments hide multiple lines of code. You create a block comment by adding /* to the first line that you want included in the block, and you close a comment block by typing */ after the last character in the block. Any text or lines between the opening /* characters and the closing */ characters are ignored by JavaScript interpreters.

POINTS: 1
DIFFICULTY: Moderate
REFERENCES: 1.2 Writing a JavaScript Program
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.2.10 - Add line comments and block comments to a JavaScript program
KEYWORDS: Bloom's: Create
DATE CREATED: 7/5/2021 3:14 PM
DATE MODIFIED: 7/19/2021 2:14 PM

26. A variable used in a program written in JavaScript _____.
a. should be created and assigned after its name is used in calculations
b. is assigned a memory location but not a name
c. is a specific location in the computer's memory
d. stores data that does not change during a program's execution

ANSWER: c

FEEDBACK:

- a. Incorrect. Technically speaking, a variable is actually a specific location in the computer's memory. Data stored in a specific variable often changes. To use a variable in a program, you first write a statement that creates the variable and assigns it a name.
- b. Incorrect. Technically speaking, a variable is actually a specific location in the computer's memory. Data stored in a specific variable often changes. To use a variable in a program, you first write a statement that creates the variable and assigns it a name.
- c. Correct. Technically speaking, a variable is actually a specific location in the computer's memory. Data stored in a specific variable often changes. To use a variable in a program, you first write a statement that creates the variable and assigns it a name.
- d. Incorrect. Technically speaking, a variable is actually a specific location in the computer's memory. Data stored in a specific variable often changes. To use a variable in a program, you first write a statement that creates the variable and assigns it a name.

POINTS: 1
DIFFICULTY: Moderate
REFERENCES: 1.3 Writing Basic JavaScript Code
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.3.1 - Describe the concept of variables in a programming language
KEYWORDS: Bloom's: Understand

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DATE CREATED: 7/5/2021 3:22 PM

DATE MODIFIED: 7/16/2021 12:02 PM

27. Suppose you need to create a variable to represent a color choice for an item. Which variable name should you assign to it to follow JavaScript rules and conventions?

- a. `itemColor`
- b. `item color`
- c. `10color`
- d. `let Item_Color`

ANSWER: a

FEEDBACK:

- a. Correct. The variable name `itemColor` correctly applies JavaScript rules and conventions for names, or identifiers. Identifiers must begin with an uppercase or lowercase ASCII letter, dollar sign (\$), or underscore (_). You can use numbers in an identifier but not as the first character (this is why `10color` is incorrect). You cannot include spaces in an identifier (this is why `item color` is incorrect). You cannot use reserved words (such as `let`) for identifiers. Additionally, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name, with subsequent words starting with an initial cap.
- b. Incorrect. The variable name `itemColor` correctly applies JavaScript rules and conventions for names, or identifiers. Identifiers must begin with an uppercase or lowercase ASCII letter, dollar sign (\$), or underscore (_). You can use numbers in an identifier but not as the first character (this is why `10color` is incorrect). You cannot include spaces in an identifier (this is why `item color` is incorrect). You cannot use reserved words (such as `let`) for identifiers. Additionally, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name, with subsequent words starting with an initial cap.
- c. Incorrect. The variable name `itemColor` correctly applies JavaScript rules and conventions for names, or identifiers. Identifiers must begin with an uppercase or lowercase ASCII letter, dollar sign (\$), or underscore (_). You can use numbers in an identifier but not as the first character (this is why `10color` is incorrect). You cannot include spaces in an identifier (this is why `item color` is incorrect). You cannot use reserved words (such as `let`) for identifiers. Additionally, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name, with subsequent words starting with an initial cap.
- d. Incorrect. The variable name `itemColor` correctly applies JavaScript rules and conventions for names, or identifiers. Identifiers must begin with an uppercase or lowercase ASCII letter, dollar sign (\$), or underscore (_). You can use numbers in an identifier but not as the first character (this is why `10color` is incorrect). You cannot include spaces in an identifier (this is why `item color` is incorrect). You cannot use reserved words (such as `let`) for identifiers. Additionally, it's best practice to use camel case, which is a method of capitalization that uses a lowercase letter for the first letter of the first word in a variable name, with subsequent words starting with an initial cap.

POINTS: 1

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DIFFICULTY: Moderate
REFERENCES: 1.3 Writing Basic JavaScript Code
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.3.2 - Identify the syntax rule for naming a JavaScript variable
KEYWORDS: Bloom's: Apply
DATE CREATED: 7/5/2021 3:23 PM
DATE MODIFIED: 7/16/2021 12:02 PM

28. Which of the following lists contains only JavaScript keywords?

- a. case, goto, i, synchronized
- b. await, delete, enum, interface
- c. async, final, long, while
- d. extends, private, TRUE, yes

ANSWER: b

FEEDBACK:

- a. Incorrect. await, delete, enum, and interface are all JavaScript keywords, as are case, goto, synchronized, final, long, while, extends, private, and TRUE. The letter i and the words async and yes are not JavaScript keywords.
- b. Correct. await, delete, enum, and interface are all JavaScript keywords, as are case, goto, synchronized, final, long, while, extends, private, and TRUE. The letter i and the words async and yes are not JavaScript keywords.
- c. Incorrect. await, delete, enum, and interface are all JavaScript keywords, as are case, goto, synchronized, final, long, while, extends, private, and TRUE. The letter i and the words async and yes are not JavaScript keywords.
- d. Incorrect. await, delete, enum, and interface are all JavaScript keywords, as are case, goto, synchronized, final, long, while, extends, private, and TRUE. The letter i and the words async and yes are not JavaScript keywords.

POINTS: 1
DIFFICULTY: Difficult
REFERENCES: 1.3 Writing Basic JavaScript Code
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
LEARNING OBJECTIVES: JASC.CARE.22.1.3.3 - Memorize the reserved JavaScript keywords
KEYWORDS: Bloom's: Understand
DATE CREATED: 7/5/2021 3:25 PM
DATE MODIFIED: 7/19/2021 2:38 PM

29. Which of the following JavaScript statements will NOT succeed in declaring the speedLimit variable and assigning the value of 70 to it?

- a. let speedLimit = 70;

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```
b. let speedLimit;  
   speedLimit = 70;  
c. let speedLimit = 70, speedUnit = "MPH";  
d. speedLimit = 70;  
   let speedLimit;
```

ANSWER: d

FEEDBACK:

a. Incorrect. The code

```
speedLimit = 70;  
let speedLimit;
```

is incorrect because it attempts to assign a value to the variable `speedLimit` before declaring it. Before you can use a variable, you should declare it, which creates the variable for storing data and objects. Optionally, the variable can be initialized, which assigns it an initial value. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:

```
let variable = value;  
var variable = value;
```

where *variable* is the name of the variable and *value* is the initial value of the variable. You can declare a variable without assigning it an initial value, as in the statement `let speedLimit;`. You can also declare multiple variables in a statement using a single `let`, `var`, or `const` keyword followed by a series of variable names and assigned values separated by commas, as in the statement `let speedLimit = 70, speedUnit = "MPH";`.

b. Incorrect. The code

```
speedLimit = 70;  
let speedLimit;
```

is incorrect because it attempts to assign a value to the variable `speedLimit` before declaring it. Before you can use a variable, you should declare it, which creates the variable for storing data and objects. Optionally, the variable can be initialized, which assigns it an initial value. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:

```
let variable = value;  
var variable = value;
```

where *variable* is the name of the variable and *value* is the initial value of the variable. You can declare a variable without assigning it an initial value, as in the statement `let speedLimit;`. You can also declare multiple variables in a statement using a single `let`, `var`, or `const` keyword followed by a series of variable names and assigned values separated by commas, as in the statement `let speedLimit = 70, speedUnit = "MPH";`.

c. Incorrect. The code

```
speedLimit = 70;  
let speedLimit;
```

is incorrect because it attempts to assign a value to the variable `speedLimit` before declaring it. Before you can use a variable, you should declare it, which creates the variable for storing data and objects. Optionally, the variable can be initialized, which assigns it an initial value. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:

```
let variable = value;  
var variable = value;
```

where *variable* is the name of the variable and *value* is the initial value of

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the variable. You can declare a variable without assigning it an initial value, as in the statement `let speedLimit;`. You can also declare multiple variables in a statement using a single `let`, `var`, or `const` keyword followed by a series of variable names and assigned values separated by commas, as in the statement `let speedLimit = 70, speedUnit = "MPH";`.

d. Correct. The code

```
speedLimit = 70;
let speedLimit;
```

is incorrect because it attempts to assign a value to the variable `speedLimit` before declaring it. Before you can use a variable, you should declare it, which creates the variable for storing data and objects. Optionally, the variable can be initialized, which assigns it an initial value. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:

```
let variable = value;
var variable = value;
```

where *variable* is the name of the variable and *value* is the initial value of the variable. You can declare a variable without assigning it an initial value, as in the statement `let speedLimit;`. You can also declare multiple variables in a statement using a single `let`, `var`, or `const` keyword followed by a series of variable names and assigned values separated by commas, as in the statement `let speedLimit = 70, speedUnit = "MPH";`.

POINTS:	1
DIFFICULTY:	Difficult
REFERENCES:	1.3 Writing Basic JavaScript Code
QUESTION TYPE:	Multiple Choice
HAS VARIABLES:	False
LEARNING OBJECTIVES:	JASC.CARE.22.1.3.4 - Declare a variable using the let keyword
KEYWORDS:	Bloom's: Apply
DATE CREATED:	7/5/2021 3:27 PM
DATE MODIFIED:	7/19/2021 2:15 PM

30. When a variable is declared and initialized with the statement `var velocity = 32;`, this means that ____.
- it has a somewhat different scope than if it were declared using the `let` keyword
 - it stores a constant value that cannot be changed
 - the variable `velocity` can only hold a numerical value, not a text string
 - the variable `velocity` was declared and initialized without using an assignment operator

ANSWER: a

- FEEDBACK:
- Correct. The difference between `let` and `var` lies with the scope of the variable being declared. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:

```
let variable = value;
var variable = value;
```

 where *variable* is the name of the variable and *value* is the initial value of the variable. In JavaScript, the type of value held by a variable assigned with `let` or `var` can be changed through reassignment, so `velocity` could also hold a text string if this occurred. Unlike variables declared with `var` and `let`,

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variables declared with `const` store a constant value that cannot be changed.

- b. Incorrect. The difference between `let` and `var` lies with the scope of the variable being declared. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:
- ```
let variable = value;
var variable = value;
```
- where *variable* is the name of the variable and *value* is the initial value of the variable. In JavaScript, the type of value held by a variable assigned with `let` or `var` can be changed through reassignment, so `velocity` could also hold a text string if this occurred. Unlike variables declared with `var` and `let`, variables declared with `const` store a constant value that cannot be changed.
- c. Incorrect. The difference between `let` and `var` lies with the scope of the variable being declared. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:
- ```
let variable = value;
var variable = value;
```
- where *variable* is the name of the variable and *value* is the initial value of the variable. In JavaScript, the type of value held by a variable assigned with `let` or `var` can be changed through reassignment, so `velocity` could also hold a text string if this occurred. Unlike variables declared with `var` and `let`, variables declared with `const` store a constant value that cannot be changed.
- d. Incorrect. The difference between `let` and `var` lies with the scope of the variable being declared. Variables are declared and initialized using either the `let` keyword or the `var` keyword in the following statements:
- ```
let variable = value;
var variable = value;
```
- where *variable* is the name of the variable and *value* is the initial value of the variable. In JavaScript, the type of value held by a variable assigned with `let` or `var` can be changed through reassignment, so `velocity` could also hold a text string if this occurred. Unlike variables declared with `var` and `let`, variables declared with `const` store a constant value that cannot be changed.

|                             |                                                                            |
|-----------------------------|----------------------------------------------------------------------------|
| <b>POINTS:</b>              | 1                                                                          |
| <b>DIFFICULTY:</b>          | Moderate                                                                   |
| <b>REFERENCES:</b>          | 1.3 Writing Basic JavaScript Code                                          |
| <b>QUESTION TYPE:</b>       | Multiple Choice                                                            |
| <b>HAS VARIABLES:</b>       | False                                                                      |
| <b>LEARNING OBJECTIVES:</b> | JASC.CARE.22.1.3.5 - Declare a variable using the <code>var</code> keyword |
| <b>KEYWORDS:</b>            | Bloom's: Apply                                                             |
| <b>DATE CREATED:</b>        | 7/5/2021 3:32 PM                                                           |
| <b>DATE MODIFIED:</b>       | 7/16/2021 12:02 PM                                                         |

31. Which statement should you use to declare a variable called `accelerationOfGravity` that will store a constant value that cannot be changed?

- a. `let accelerationOfGravity = 9.8;`  
b. `var accelerationOfGravity;`  
`accelerationOfGravity = 9.8;`

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c. `const accelerationOfGravity = 9.8;`

d. `const.accelerationOfGravity(9.8);`

ANSWER: c

FEEDBACK:

- a. Incorrect. The statement `const accelerationOfGravity = 9.8;` should be used to declare a variable called `accelerationOfGravity` that will store a constant value that cannot be changed (it also assigns this variable the value 9.8). One way of declaring a variable is with the following `const` keyword:  
`const variable = value;`  
 Unlike variables declared with `var` and `let`, variables declared with `const` store a constant value that cannot be changed.
- b. Incorrect. The statement `const accelerationOfGravity = 9.8;` should be used to declare a variable called `accelerationOfGravity` that will store a constant value that cannot be changed (it also assigns this variable the value 9.8). One way of declaring a variable is with the following `const` keyword:  
`const variable = value;`  
 Unlike variables declared with `var` and `let`, variables declared with `const` store a constant value that cannot be changed.
- c. Correct. The statement `const accelerationOfGravity = 9.8;` should be used to declare a variable called `accelerationOfGravity` that will store a constant value that cannot be changed (it also assigns this variable the value 9.8). One way of declaring a variable is with the following `const` keyword:  
`const variable = value;`  
 Unlike variables declared with `var` and `let`, variables declared with `const` store a constant value that cannot be changed.
- d. Incorrect. The statement `const accelerationOfGravity = 9.8;` should be used to declare a variable called `accelerationOfGravity` that will store a constant value that cannot be changed (it also assigns this variable the value 9.8). One way of declaring a variable is with the following `const` keyword:  
`const variable = value;`  
 Unlike variables declared with `var` and `let`, variables declared with `const` store a constant value that cannot be changed.

POINTS: 1

DIFFICULTY: Moderate

REFERENCES: 1.3 Writing Basic JavaScript Code

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22.1.3.6 - Declare a constant using the `const` keyword

KEYWORDS: Bloom's: Apply

DATE CREATED: 7/5/2021 3:33 PM

DATE MODIFIED: 7/19/2021 2:16 PM

32. Suppose you have initialized two variables containing integers called `qtyOne` and `qtyTwo`. How would you write a JavaScript expression to declare a `totalQty` variable and assign the sum of `qtyOne` and `qtyTwo` as its value?



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- a. `totalQty = sum(qtyOne, qtyTwo);`
- b. `document.write(totalQty, qtyOne + qtyTwo);`
- c. `qtyOne + qtyTwo = totalQty;`
- d. `let totalQty = qtyOne + qtyTwo;`

ANSWER: d

**FEEDBACK:**

- a. Incorrect. The expression `let totalQty = qtyOne + qtyTwo;` declares a `totalQty` variable and assigns the sum of `qtyOne` and `qtyTwo` as its value. Variables are declared and initialized using either the `let` keyword or the `var` keyword. To assign a value to a variable, the value must be on the right side of the assignment operator and the variable on the left. You can use the addition operator to perform arithmetic operations involving variables that contain numeric values. The following code declares two variables, assigning them numeric values. The third statement declares another variable and assigns to it the sum of the two variables.  

```
let salesTotal = 47.58;
let shippingCost = 10;
let totalCost = salesTotal + shippingCost;
```
- b. Incorrect. The expression `let totalQty = qtyOne + qtyTwo;` declares a `totalQty` variable and assigns the sum of `qtyOne` and `qtyTwo` as its value. Variables are declared and initialized using either the `let` keyword or the `var` keyword. To assign a value to a variable, the value must be on the right side of the assignment operator and the variable on the left. You can use the addition operator to perform arithmetic operations involving variables that contain numeric values. The following code declares two variables, assigning them numeric values. The third statement declares another variable and assigns to it the sum of the two variables.  

```
let salesTotal = 47.58;
let shippingCost = 10;
let totalCost = salesTotal + shippingCost;
```
- c. Incorrect. The expression `let totalQty = qtyOne + qtyTwo;` declares a `totalQty` variable and assigns the sum of `qtyOne` and `qtyTwo` as its value. Variables are declared and initialized using either the `let` keyword or the `var` keyword. To assign a value to a variable, the value must be on the right side of the assignment operator and the variable on the left. You can use the addition operator to perform arithmetic operations involving variables that contain numeric values. The following code declares two variables, assigning them numeric values. The third statement declares another variable and assigns to it the sum of the two variables.  

```
let salesTotal = 47.58;
let shippingCost = 10;
let totalCost = salesTotal + shippingCost;
```
- d. Correct. The expression `let totalQty = qtyOne + qtyTwo;` declares a `totalQty` variable and assigns the sum of `qtyOne` and `qtyTwo` as its value. Variables are declared and initialized using either the `let` keyword or the `var` keyword. To assign a value to a variable, the value must be on the right side of the assignment operator and the variable on the left. You can use the addition operator to perform arithmetic operations involving variables that contain numeric values. The following code declares two variables, assigning them

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numeric values. The third statement declares another variable and assigns to it the sum of the two variables.

```
let salesTotal = 47.58;
let shippingCost = 10;
let totalCost = salesTotal + shippingCost;
```

**POINTS:** 1

**DIFFICULTY:** Moderate

**REFERENCES:** 1.4 Building Expressions with Variables

**QUESTION TYPE:** Multiple Choice

**HAS VARIABLES:** False

**LEARNING OBJECTIVES:** JASC.CARE.22.1.4.1 - Writing a basic expression in JavaScript

**KEYWORDS:** Bloom's: Create

**DATE CREATED:** 7/5/2021 3:34 PM

**DATE MODIFIED:** 7/16/2021 12:02 PM

33. You can use the addition operator (+) in several ways in JavaScript. However, you CANNOT use the addition operator to \_\_\_\_\_.

- a. combine the text string "Your score is: " with the integer 20 in displayed text
- b. add the integer 10 and the string "10" to return the integer 20
- c. perform arithmetic operations using the names of variables with integer values
- d. combine the text string "Good morning, " with the value of firstName

**ANSWER:** b

**FEEDBACK:**

- a. Incorrect. Using the addition operator to combine the integer 10 and the string "10" will return the string "1010", not the integer 20. The addition operator (+) can be used both to add numeric values and to combine text strings. However, if you combine a text string and numeric value, JavaScript will treat both values as strings and will combine them rather than adding them. You can also use the addition operator to perform arithmetic operations involving variables that contain numeric values.
- b. Correct. Using the addition operator to combine the integer 10 and the string "10" will return the string "1010", not the integer 20. The addition operator (+) can be used both to add numeric values and to combine text strings. However, if you combine a text string and numeric value, JavaScript will treat both values as strings and will combine them rather than adding them. You can also use the addition operator to perform arithmetic operations involving variables that contain numeric values.
- c. Incorrect. Using the addition operator to combine the integer 10 and the string "10" will return the string "1010", not the integer 20. The addition operator (+) can be used both to add numeric values and to combine text strings. However, if you combine a text string and numeric value, JavaScript will treat both values as strings and will combine them rather than adding them. You can also use the addition operator to perform arithmetic operations involving variables that contain numeric values.
- d. Incorrect. Using the addition operator to combine the integer 10 and the string "10" will return the string "1010", not the integer 20. The addition operator (+) can be used both to add numeric values and to combine text strings. However, if

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you combine a text string and numeric value, JavaScript will treat both values as strings and will combine them rather than adding them. You can also use the addition operator to perform arithmetic operations involving variables that contain numeric values.

**POINTS:** 1  
**DIFFICULTY:** Difficult  
**REFERENCES:** 1.4 Building Expressions with Variables  
**QUESTION TYPE:** Multiple Choice  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22. 1.4.2 - Describe the role of an operator in a JavaScript expression  
**KEYWORDS:** Bloom's: Analyze  
**DATE CREATED:** 7/5/2021 3:36 PM  
**DATE MODIFIED:** 7/19/2021 2:16 PM

34. The operands in the JavaScript expression "ABC" + 123 + doReMe are: "ABC", 123, and doReMe.

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* The operands in the JavaScript expression "ABC" + 123 + doReMe are: "ABC", 123, and doReMe. An expression is a literal value or variable, or a combination of literal values, variables, operators, and other expressions, that can be evaluated by a JavaScript interpreter to produce a result. Operands are the variables (such as doReMe) and literals (such as "ABC" and 123) contained in the expression.

*Incorrect* The operands in the JavaScript expression "ABC" + 123 + doReMe are: "ABC", 123, and doReMe. An expression is a literal value or variable, or a combination of literal values, variables, operators, and other expressions, that can be evaluated by a JavaScript interpreter to produce a result. Operands are the variables (such as doReMe) and literals (such as "ABC" and 123) contained in the expression.

**POINTS:** 1  
**DIFFICULTY:** Easy  
**REFERENCES:** 1.4 Building Expressions with Variables  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.4.3 - Identify the role of an operand in a JavaScript expression  
**KEYWORDS:** Bloom's: Analyze  
**DATE CREATED:** 7/5/2021 3:37 PM  
**DATE MODIFIED:** 7/19/2021 2:17 PM

35. Which element of the JavaScript expression document.write("<p>The current time in " + cityName + " is " + currentTime + ".</p>"); is a literal?

- a. cityName
- b. "<p>The current time in "

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- c. document
- d. write

**ANSWER:** b

**FEEDBACK:**

- a. Incorrect. "<p>The current time in " is a text string and, therefore, a literal. A literal is a value such as a text string or a number; literals and/or variables serve as the operands in JavaScript expressions. In this expression, cityName is a variable, document is an object, and write is a method of the document object.
- b. Correct. "<p>The current time in " is a text string and, therefore, a literal. A literal is a value such as a text string or a number; literals and/or variables serve as the operands in JavaScript expressions. In this expression, cityName is a variable, document is an object, and write is a method of the document object.
- c. Incorrect. "<p>The current time in " is a text string and, therefore, a literal. A literal is a value such as a text string or a number; literals and/or variables serve as the operands in JavaScript expressions. In this expression, cityName is a variable, document is an object, and write is a method of the document object.
- d. Incorrect. "<p>The current time in " is a text string and, therefore, a literal. A literal is a value such as a text string or a number; literals and/or variables serve as the operands in JavaScript expressions. In this expression, cityName is a variable, document is an object, and write is a method of the document object.

**POINTS:** 1

**DIFFICULTY:** Easy

**REFERENCES:** 1.4 Building Expressions with Variables

**QUESTION TYPE:** Multiple Choice

**HAS VARIABLES:** False

**LEARNING OBJECTIVES:** JASC.CARE.22.1.4.4 - Describe the role of a literal in a JavaScript expression

**KEYWORDS:** Bloom's: Analyze

**DATE CREATED:** 7/5/2021 3:38 PM

**DATE MODIFIED:** 7/16/2021 12:02 PM

36. Suppose you have initialized a variable in your JavaScript program using this statement:

```
let weight = 130;
```

What expression should you use to modify the value of weight later in the program?

- a. weight = 115;
- b. let weight;  
weight = 115;
- c. weight.value = 115;
- d. weight2 = weight + 115;

**ANSWER:** a

**FEEDBACK:**

- a. Correct. Because you can change a variable's value at any point in a script simply by using an expression to assign it a new value, weight = 115; is the best choice for changing the value of weight. It is only necessary to declare the

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weight variable once using the `let` keyword. The expression `weight2 = weight + 115;` assigns a new value to the `weight2` variable, leaving the `weight` variable unchanged.

- b. Incorrect. Because you can change a variable's value at any point in a script simply by using an expression to assign it a new value, `weight = 115;` is the best choice for changing the value of `weight`. It is only necessary to declare the `weight` variable once using the `let` keyword. The expression `weight2 = weight + 115;` assigns a new value to the `weight2` variable, leaving the `weight` variable unchanged.
- c. Incorrect. Because you can change a variable's value at any point in a script simply by using an expression to assign it a new value, `weight = 115;` is the best choice for changing the value of `weight`. It is only necessary to declare the `weight` variable once using the `let` keyword. The expression `weight2 = weight + 115;` assigns a new value to the `weight2` variable, leaving the `weight` variable unchanged.
- d. Incorrect. Because you can change a variable's value at any point in a script simply by using an expression to assign it a new value, `weight = 115;` is the best choice for changing the value of `weight`. It is only necessary to declare the `weight` variable once using the `let` keyword. The expression `weight2 = weight + 115;` assigns a new value to the `weight2` variable, leaving the `weight` variable unchanged.

**POINTS:** 1

**DIFFICULTY:** Moderate

**REFERENCES:** 1.4 Building Expressions with Variables

**QUESTION TYPE:** Multiple Choice

**HAS VARIABLES:** False

**LEARNING OBJECTIVES:** JASC.CARE.22.1.4.5 - Modify a variable's value within a JavaScript expression

**KEYWORDS:** Bloom's: Apply

**DATE CREATED:** 7/5/2021 3:39 PM

**DATE MODIFIED:** 7/16/2021 12:02 PM

37. In the context of programming web applications, a user typing in a form field with a keyboard, the occurrence of an error as a browser attempts to load a page, and a user touching a webpage element on a mobile phone screen are all examples of events.

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* With JavaScript, a user typing in a form field with a keyboard could trigger a change event, the occurrence of an error as a browser attempts to load a page could trigger an `error` event, and a user touching a webpage element on a mobile phone screen could trigger a `click` or `mouseover` event. An event is a specific circumstance (such as an action performed by a user or an action performed by the browser) that is monitored by JavaScript and that your script can respond to in some way.

*Incorrect* With JavaScript, a user typing in a form field with a keyboard could trigger a

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change event, the occurrence of an error as a browser attempts to load a page could trigger an `error` event, and a user touching a webpage element on a mobile phone screen could trigger a `click` or `mouseover` event. An event is a specific circumstance (such as an action performed by a user or an action performed by the browser) that is monitored by JavaScript and that your script can respond to in some way.

**POINTS:** 1**DIFFICULTY:** Easy**REFERENCES:** 1.5 Understanding Events**QUESTION TYPE:** True / False**HAS VARIABLES:** False**LEARNING OBJECTIVES:** JASC.CARE.22.1.5.1 - Describe the concept of events within a programming language**KEYWORDS:** Bloom's: Understand**DATE CREATED:** 7/5/2021 3:41 PM**DATE MODIFIED:** 7/16/2021 12:02 PM

38. JavaScript programmers must include code to respond to the complete set of trigger events in each script because all events occur with all devices that run browser applications.

a. True

b. False

**ANSWER:** False

**FEEDBACK:** *Correct* Not all events happen with all devices. For instance, `keydown` and `keyup` are triggered only by a keyboard, and `touchend`, `touchmove`, and `touchstart` take place only on a touchscreen device. For this reason, it's important to choose trigger events that make your scripts available to users on all devices.

*Incorrect* Not all events happen with all devices. For instance, `keydown` and `keyup` are triggered only by a keyboard, and `touchend`, `touchmove`, and `touchstart` take place only on a touchscreen device. For this reason, it's important to choose trigger events that make your scripts available to users on all devices.

**POINTS:** 1**DIFFICULTY:** Easy**REFERENCES:** 1.5 Understanding Events**QUESTION TYPE:** True / False**HAS VARIABLES:** False**LEARNING OBJECTIVES:** JASC.CARE.22.1.5.2 - Compare different events within a website**KEYWORDS:** Bloom's: Understand**DATE CREATED:** 7/5/2021 3:42 PM**DATE MODIFIED:** 7/16/2021 12:02 PM

39. Which of the following lines of code correctly uses an event handler attribute to display a dialog box when the webpage user clicks or taps a submit button?

a. `<select type="submit" onclick="window.alert(Welcome!)" />`b. `<input type="submit" onclick=window.alert("Welcome!") />`c. `<input type="submit" onclick="window.alert('Welcome!') " />`



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d. `<input type="submit" onblur="window.alert('Welcome!')" />`

ANSWER:

c

FEEDBACK:

- a. Incorrect. The line `<input type="submit" onclick="window.alert('Welcome!')" />` correctly uses an event handler attribute to display a dialog box when the webpage user clicks or taps a submit button. One way is to include event handler code as an attribute of the element that initiates the event. The syntax of an event handler within an opening tag is as follows:
- ```
<element onevent="JavaScript code">
```
- The attribute name you use to specify an event handler combines the prefix on with the name of the event itself. The syntax for the `alert()` method is `window.alert(message);`. Notice that the event handler code specified as an attribute value—the `window.alert()` method—is contained within double quotation marks. Also notice that a literal string being passed must be contained in single quotation marks.
- b. Incorrect. The line `<input type="submit" onclick="window.alert('Welcome!')" />` correctly uses an event handler attribute to display a dialog box when the webpage user clicks or taps a submit button. One way is to include event handler code as an attribute of the element that initiates the event. The syntax of an event handler within an opening tag is as follows:
- ```
<element onevent="JavaScript code">
```
- The attribute name you use to specify an event handler combines the prefix on with the name of the event itself. The syntax for the `alert()` method is `window.alert(message);`. Notice that the event handler code specified as an attribute value—the `window.alert()` method—is contained within double quotation marks. Also notice that a literal string being passed must be contained in single quotation marks.
- c. Correct. The line `<input type="submit" onclick="window.alert('Welcome!')" />` correctly uses an event handler attribute to display a dialog box when the webpage user clicks or taps a submit button. One way is to include event handler code as an attribute of the element that initiates the event. The syntax of an event handler within an opening tag is as follows:
- ```
<element onevent="JavaScript code">
```
- The attribute name you use to specify an event handler combines the prefix on with the name of the event itself. The syntax for the `alert()` method is `window.alert(message);`. Notice that the event handler code specified as an attribute value—the `window.alert()` method—is contained within double quotation marks. Also notice that a literal string being passed must be contained in single quotation marks.
- d. Incorrect. The line `<input type="submit" onclick="window.alert('Welcome!')" />` correctly uses an event handler attribute to display a dialog box when the webpage user clicks or taps a submit button. One way is to include event handler code as an attribute of the element that initiates the event. The syntax of an event handler within an opening tag is as follows:
- ```
<element onevent="JavaScript code">
```
- The attribute name you use to specify an event handler combines the prefix on

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with the name of the event itself. The syntax for the `alert()` method is `window.alert(message);`. Notice that the event handler code specified as an attribute value—the `window.alert()` method—is contained within double quotation marks. Also notice that a literal string being passed must be contained in single quotation marks.

**POINTS:** 1  
**DIFFICULTY:** Difficult  
**REFERENCES:** 1.5 Understanding Events  
**QUESTION TYPE:** Multiple Choice  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.5.3 - Apply an event handler as an attribute within an HTML tag  
**KEYWORDS:** Bloom's: Apply  
**DATE CREATED:** 7/5/2021 3:42 PM  
**DATE MODIFIED:** 7/16/2021 12:02 PM

40. The JavaScript `window.alert()` method makes a dialog box appear that contains the literal string passed to it plus an OK button that can be clicked to close the box.

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* The `window.alert()` method displays a dialog box with an OK button. You pass the `window.alert()` method a literal string containing the text you want to display. The syntax for the `alert()` method is `window.alert(message);`.

*Incorrect* The `window.alert()` method displays a dialog box with an OK button. You pass the `window.alert()` method a literal string containing the text you want to display. The syntax for the `alert()` method is `window.alert(message);`.

**POINTS:** 1  
**DIFFICULTY:** Easy  
**REFERENCES:** 1.5 Understanding Events  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.5.4 - Create an alert window within a web browser  
**KEYWORDS:** Bloom's: Apply  
**DATE CREATED:** 7/5/2021 3:43 PM  
**DATE MODIFIED:** 7/19/2021 2:39 PM

41. Suppose you want to change the source file for the image element with the `id` value `shirtPhoto` so that a blue shirt is shown when the webpage user clicks a blue swatch image on the page. The photo's file name is stored in the variable `blueShirtImage`. What JavaScript event handler could you attach to the swatch image element?

- a. `onclick="shirtPhoto.getElementById.src = blueShirtImage"`
- b. `onclick=document.getElementById('shirtPhoto').src = blueShirtImage`
- c. `onclick="document.getElement('shirtPhoto').src = blueShirtImage"`

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d. onclick="document.getElementById('shirtPhoto').src = blueShirtImage"

ANSWER: d

FEEDBACK:

- a. Incorrect. The event handler  
onclick="document.getElementById('shirtPhoto').src = blueShirtImage" could be attached to the swatch element to display the blue shirt image in response to a click event. To look up an element by its id value in your JavaScript code, use the getElementById() method of the Document object. Specific properties of an element can be appended to an element reference created using this method. This allows you to retrieve information about an element or change the values assigned to its attributes.
- b. Incorrect. The event handler  
onclick="document.getElementById('shirtPhoto').src = blueShirtImage" could be attached to the swatch element to display the blue shirt image in response to a click event. To look up an element by its id value in your JavaScript code, use the getElementById() method of the Document object. Specific properties of an element can be appended to an element reference created using this method. This allows you to retrieve information about an element or change the values assigned to its attributes.
- c. Incorrect. The event handler  
onclick="document.getElementById('shirtPhoto').src = blueShirtImage" could be attached to the swatch element to display the blue shirt image in response to a click event. To look up an element by its id value in your JavaScript code, use the getElementById() method of the Document object. Specific properties of an element can be appended to an element reference created using this method. This allows you to retrieve information about an element or change the values assigned to its attributes.
- d. Correct. The event handler  
onclick="document.getElementById('shirtPhoto').src = blueShirtImage" could be attached to the swatch element to display the blue shirt image in response to a click event. To look up an element by its id value in your JavaScript code, use the getElementById() method of the Document object. Specific properties of an element can be appended to an element reference created using this method. This allows you to retrieve information about an element or change the values assigned to its attributes.

POINTS: 1

DIFFICULTY: Difficult

REFERENCES: 1.5 Understanding Events

QUESTION TYPE: Multiple Choice

HAS VARIABLES: False

LEARNING OBJECTIVES: JASC.CARE.22. 1.5.5 - Reference web page elements by their id value using the document.getElementById() method

KEYWORDS: Bloom's: Apply

DATE CREATED: 7/5/2021 3:44 PM

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42. When you insert several JavaScript scripts into an HTML file, you must repeat statements declaring and initializing variables in each script because the statements in one script are unavailable to other scripts in the file.

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- a. True
- b. False

**ANSWER:** False

**FEEDBACK:** *Correct* Because statements in one script section are accessible to subsequent script sections within an HTML file, you can use variables defined in the first script in subsequent scripts without declaring them again. For the purposes of your programs, you can think of the two scripts as being "connected" even if they are separated by HTML code.

*Incorrect* Because statements in one script section are accessible to subsequent script sections within an HTML file, you can use variables defined in the first script in subsequent scripts without declaring them again. For the purposes of your programs, you can think of the two scripts as being "connected" even if they are separated by HTML code.

**POINTS:** 1

**DIFFICULTY:** Moderate

**REFERENCES:** 1.6 Structuring JavaScript Code

**QUESTION TYPE:** True / False

**HAS VARIABLES:** False

**LEARNING OBJECTIVES:** JASC.CARE.22.1.6.1 - Explain the interaction between multiple scripts within an HTML file

**KEYWORDS:** Bloom's: Understand

**DATE CREATED:** 7/5/2021 3:49 PM

**DATE MODIFIED:** 7/19/2021 2:21 PM

43. It is the best practice to place all JavaScript scripts at the beginning of an HTML file so that they will not be run until after the Document Object Model has been created.

- a. True
- b. False

**ANSWER:** False

**FEEDBACK:** *Correct* Many developers place scripts at the end of the HTML document to ensure that the entirety of the page has been loaded into the DOM before they are run. Remember that part of loading the page is creating the Document Object Model that maps the entire page content. If your script references a part of the page that has not yet been loaded, an error will result.

*Incorrect* Many developers place scripts at the end of the HTML document to ensure that the entirety of the page has been loaded into the DOM before they are run. Remember that part of loading the page is creating the Document Object Model that maps the entire page content. If your script references a part of the page that has not yet been loaded, an error will result.

**POINTS:** 1

**DIFFICULTY:** Moderate

**REFERENCES:** 1.6 Structuring JavaScript Code

**QUESTION TYPE:** True / False

**HAS VARIABLES:** False

**LEARNING OBJECTIVES:** JASC.CARE.22.1.6.2 - Determine how to place scripts within an HTML file to avoid error

**KEYWORDS:** Bloom's: Analyze

**DATE CREATED:** 7/5/2021 3:49 PM

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**DATE MODIFIED:** 7/16/2021 12:02 PM

44. When the following `script` element is inserted into an HTML file to instruct the browser to load a JavaScript file, the name and location of the HTML file belong in the blank.

`<script src="_____"></script>`

- a. True
- b. False

**ANSWER:** False

**FEEDBACK:** *Correct* The file name and location of the JavaScript file belong in the blank in this `script` element, so it would read, for example: `<script src="fantastic.js"></script>`.

*Incorrect* The file name and location of the JavaScript file belong in the blank in this `script` element, so it would read, for example: `<script src="fantastic.js"></script>`.

**POINTS:** 1

**DIFFICULTY:** Moderate

**REFERENCES:** 1.7 Creating a JavaScript Source File

**QUESTION TYPE:** True / False

**HAS VARIABLES:** False

**LEARNING OBJECTIVES:** JASC.CARE.22.1.7.1 - Load an external JavaScript source file into an HTML document

**KEYWORDS:** Bloom's: Apply

**DATE CREATED:** 7/5/2021 3:49 PM

**DATE MODIFIED:** 7/16/2021 12:02 PM

45. You should add the `defer` attribute to the `script` element attaching an external JavaScript file to an HTML file when you want the browser to load the HTML file completely, then load and process the script.

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* When you add the `defer` attribute to the `script` element attaching an external JavaScript file to an HTML file, the browser will load the HTML file completely, then load and process the script. You can modify when the external script file is accessed and loaded by adding the `async` or `defer` attribute to the opening `<script>` tag. The `async` attribute tells the browser to parse the HTML and JavaScript code together, only pausing to process the script before returning to the HTML file.

*Incorrect* When you add the `defer` attribute to the `script` element attaching an external JavaScript file to an HTML file, the browser will load the HTML file completely, then load and process the script. You can modify when the external script file is accessed and loaded by adding the `async` or `defer` attribute to the opening `<script>` tag. The `async` attribute tells the browser to parse the HTML and JavaScript code together, only pausing to process the script before returning to the HTML file.

**POINTS:** 1

**DIFFICULTY:** Moderate

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**REFERENCES:** 1.7 Creating a JavaScript Source File  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.7.2 - Defer the loading an external JavaScript source file using the defer attribute  
**KEYWORDS:** Bloom's: Apply  
**DATE CREATED:** 7/5/2021 3:50 PM  
**DATE MODIFIED:** 7/16/2021 12:02 PM

46. When the file `magnolia.js` is attached to a web page by inserting the following line into its HTML file, the browser will load the HTML and JavaScript files together until the script is loaded, pause loading of the HTML to process the script, then complete loading of the HTML.

`<script src="magnolia.js" async></script>`

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* When it encounters the element `<script src="magnolia.js" async></script>` in the HTML file, the browser will begin loading the HTML and JavaScript files together. Once the script is loaded, the browser will pause loading of the HTML to process the script, then complete loading of the HTML. You can modify when the external script file is accessed and loaded by adding the `async` or `defer` attribute to the opening `<script>` tag. The `defer` attribute tells the browser to hold off processing the script until after the page has been completely parsed and loaded.

*Incorrect* When it encounters the element `<script src="magnolia.js" async></script>` in the HTML file, the browser will begin loading the HTML and JavaScript files together. Once the script is loaded, the browser will pause loading of the HTML to process the script, then complete loading of the HTML. You can modify when the external script file is accessed and loaded by adding the `async` or `defer` attribute to the opening `<script>` tag. The `defer` attribute tells the browser to hold off processing the script until after the page has been completely parsed and loaded.

**POINTS:** 1  
**DIFFICULTY:** Moderate  
**REFERENCES:** 1.7 Creating a JavaScript Source File  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.7.3 - Load an external JavaScript source file asynchronously with the web page using the `async` attribute  
**KEYWORDS:** Bloom's: Apply  
**DATE CREATED:** 7/5/2021 3:51 PM  
**DATE MODIFIED:** 7/16/2021 12:02 PM

47. When you link an HTML file to an external JavaScript file using the `src` attribute of the `script` element, you must update the HTML file every time the script is modified to prevent load-time errors.



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- a. True
- b. False

**ANSWER:** False

**FEEDBACK:** *Correct* Once you have created a link to an external JavaScript file, you should not have to modify the HTML file again unless you need to change the content or structure of the document. All future programming changes can be made in JavaScript file. To attach a web page to a JavaScript source file, insert the following `script` element within the HTML file:  
`<script src="url"></script>`  
 where *url* is the file name and location of the JavaScript file.

*Incorrect* Once you have created a link to an external JavaScript file, you should not have to modify the HTML file again unless you need to change the content or structure of the document. All future programming changes can be made in JavaScript file. To attach a web page to a JavaScript source file, insert the following `script` element within the HTML file:  
`<script src="url"></script>`  
 where *url* is the file name and location of the JavaScript file.

**POINTS:** 1

**DIFFICULTY:** Moderate

**REFERENCES:** 1.7 Creating a JavaScript Source File

**QUESTION TYPE:** True / False

**HAS VARIABLES:** False

**LEARNING OBJECTIVES:** JASC.CARE.22.1.7.4 - Create a JavaScript program that connects to an external JavaScript file

**KEYWORDS:** Bloom's: Create

**DATE CREATED:** 7/5/2021 3:51 PM

**DATE MODIFIED:** 7/16/2021 12:02 PM

48. JavaScript libraries such as Node.js and jQuery can be downloaded and then utilized to create and manage large web applications more effectively when connected to the HTML file through a `script` element in the head section.

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* A handful of libraries are commonly used to perform a variety of functions on large, complex websites. For instance, Node.js and jQuery contain tools for creating and managing large web applications. After downloading a .js file containing a library that you want to use on a web page, you incorporate it into your HTML code just as you would any other JavaScript source file: by creating a `script` element in the head section and using the `src` attribute to specify the file name of the library.

*Incorrect* A handful of libraries are commonly used to perform a variety of functions on large, complex websites. For instance, Node.js and jQuery contain tools for creating and managing large web applications. After downloading a .js file containing a library that you want to use on a web page, you incorporate it into your HTML code just as you would any other JavaScript source file: by creating a `script` element in the head section and using the `src` attribute to specify the file

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name of the library.

**POINTS:** 1  
**DIFFICULTY:** Easy  
**REFERENCES:** 1.7 Creating a JavaScript Source File  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.7.5 - Identify about JavaScript libraries for creating specialized applications  
**KEYWORDS:** Bloom's: Understand  
**DATE CREATED:** 7/5/2021 3:52 PM  
**DATE MODIFIED:** 7/16/2021 12:02 PM

49. If all of the major browsers can render a web page, this indicates that the HTML document used to produce it is well formed.

- a. True
- b. False

**ANSWER:** False

**FEEDBACK:** *Correct* A web browser cannot tell whether an HTML document is well formed; instead, to ensure that a web page is well formed and that its elements are valid, you need to use a validating parser. When you use a web browser to open an HTML document that does not conform to the rules and requirements of the language, the browser simply ignores the errors and renders the web page as best it can. A document that conforms to these rules is said to be well formed.

*Incorrect* A web browser cannot tell whether an HTML document is well formed; instead, to ensure that a web page is well formed and that its elements are valid, you need to use a validating parser. When you use a web browser to open an HTML document that does not conform to the rules and requirements of the language, the browser simply ignores the errors and renders the web page as best it can. A document that conforms to these rules is said to be well formed.

**POINTS:** 1  
**DIFFICULTY:** Moderate  
**REFERENCES:** 1.8 Validating Web Pages  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.8.1 - Describe what constitutes a well-formed document  
**KEYWORDS:** Bloom's: Understand  
**DATE CREATED:** 7/5/2021 3:52 PM  
**DATE MODIFIED:** 7/16/2021 12:02 PM

50. An HTML document that is well formed and correctly written according to the element definitions in HTML's specific language definition is considered a valid document.

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* The term validation refers to the process of verifying that your document is well

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formed and checking that the elements in your document are correctly written according to the element definitions in a specific DTD. A validating parser is a program that checks whether a web page is well formed and whether the document conforms to a specific language definition known as a DTD.

*Incorrect* The term validation refers to the process of verifying that your document is well formed and checking that the elements in your document are correctly written according to the element definitions in a specific DTD. A validating parser is a program that checks whether a web page is well formed and whether the document conforms to a specific language definition known as a DTD.

*POINTS:* 1

*DIFFICULTY:* Easy

*REFERENCES:* 1.8 Validating Web Pages

*QUESTION TYPE:* True / False

*HAS VARIABLES:* False

*LEARNING OBJECTIVES:* JASC.CARE.22.1.8.2 - Identify what constitutes a valid document

*KEYWORDS:* Bloom's: Understand

*DATE CREATED:* 7/5/2021 3:53 PM

*DATE MODIFIED:* 7/16/2021 12:02 PM

51. Enclosing embedded JavaScript statements within a `script` element of an XHTML document in a CDATA section causes them to be treated as parsed character data, which will invalidate the XHTML document.

a. True

b. False

*ANSWER:* False

*FEEDBACK:* *Correct* You can make XHTML documents valid by using a CDATA section to enclose embedded JavaScript code within a `script` element. In XHTML documents, the statements in script elements are treated as parsed character data, or PCDATA, which identifies a section of a document that is interpreted as markup. Because JavaScript code in an XHTML document is treated as PCDATA, if you attempt to validate an XHTML document that contains a script section, it will fail the validation. if you prefer to keep the JavaScript code within the document, you can enclose the code within a script element within a CDATA section, which marks sections of a document as CDATA. The syntax for including a CDATA section on a web page is as follows:

```
<![CDATA[
statements to mark as CDATA
]]>
```

*Incorrect* You can make XHTML documents valid by using a CDATA section to enclose embedded JavaScript code within a `script` element. In XHTML documents, the statements in script elements are treated as parsed character data, or PCDATA, which identifies a section of a document that is interpreted as markup. Because JavaScript code in an XHTML document is treated as PCDATA, if you attempt to validate an XHTML document that contains a script section, it will fail the validation. if you prefer to keep the JavaScript code within the document, you can enclose the code within a script element within a CDATA section, which marks sections of a document as CDATA. The syntax for including a CDATA section on a web page is as follows:

```
<![CDATA[
```

## **Chapter 1 - Introduction to Javascript**

*statements to mark as CDATA*  
]]>

**POINTS:** 1  
**DIFFICULTY:** Difficult  
**REFERENCES:** 1.8 Validating Web Pages  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.8.3 - Explain the characteristics of parsed character data or PCDATA  
**KEYWORDS:** Bloom's: Understand  
**DATE CREATED:** 7/5/2021 4:00 PM  
**DATE MODIFIED:** 7/19/2021 2:40 PM

52. Enclosing embedded JavaScript statements within a `script` element of an XHTML document in a CDATA section causes them to be treated as parsed character data, which will invalidate the XHTML document.

- a. True
- b. False

**ANSWER:** True

**FEEDBACK:** *Correct* With HTML documents, the statements in a `script` element are interpreted as character data instead of as markup. A section of a document that is not interpreted as markup is referred to as character data, or CDATA. If you were to validate an HTML document containing a script section, the document would validate successfully because the validator would ignore the script section and not attempt to interpret the text and symbols in the JavaScript statements as HTML elements or attributes.

*Incorrect* With HTML documents, the statements in a `script` element are interpreted as character data instead of as markup. A section of a document that is not interpreted as markup is referred to as character data, or CDATA. If you were to validate an HTML document containing a script section, the document would validate successfully because the validator would ignore the script section and not attempt to interpret the text and symbols in the JavaScript statements as HTML elements or attributes.

**POINTS:** 1  
**DIFFICULTY:** Moderate  
**REFERENCES:** 1.8 Validating Web Pages  
**QUESTION TYPE:** True / False  
**HAS VARIABLES:** False  
**LEARNING OBJECTIVES:** JASC.CARE.22.1.8.4 - Explain the characteristics of character data of CDATA  
**KEYWORDS:** Bloom's: Understand  
**DATE CREATED:** 7/5/2021 4:01 PM  
**DATE MODIFIED:** 7/23/2021 11:49 AM