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Chapter 02: Working with Functions, Data Types, and Operators

True / False

1. In JavaScript code, you use the words `yes` and `no` to indicate Boolean values.

- a. True
- b. False

ANSWER: False

POINTS: 1

REFERENCES: 97

2. A comparison operator is used to compare two operands and determine if one numeric value is greater than another.

- a. True
- b. False

ANSWER: True

POINTS: 1

REFERENCES: 118

3. A logical operator is used to compare two string operands for equality.

- a. True
- b. False

ANSWER: False

POINTS: 1

REFERENCES: 123

4. Parentheses are used with expressions to change the associativity with which individual operations in an expression are evaluated.

- a. True
- b. False

ANSWER: True

POINTS: 1

REFERENCES: 129
130

5. An anonymous function is a set of related statements that is assigned a name.

- a. True
- b. False

ANSWER: False

POINTS: 1

REFERENCES: 74

Multiple Choice

6. In JavaScript programming, you can write your own procedures, called _____, which refer to a related group of JavaScript statements that are executed as a single unit.

- a. programs
- b. functions
- c. modules
- d. objects

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ANSWER: b
POINTS: 1
REFERENCES: 73
74

7. A(n) ____ is a variable that is used within a function.
- a. method b. property
 - c. parameter d. operator

ANSWER: c
POINTS: 1
REFERENCES: 75

8. A(n) ____ statement is a statement that returns a value to the statement that called the function.
- a. return b. replace
 - c. value d. exit

ANSWER: a
POINTS: 1
REFERENCES: 86

9. A ____ variable is one that is declared outside a function and is available to all parts of your program.
- a. local b. limited
 - c. scoped d. global

ANSWER: d
POINTS: 1
REFERENCES: 87

10. Data types that can be assigned only a single value are called ____ types.
- a. primitive b. null
 - c. numeric d. Boolean

ANSWER: a
POINTS: 1
REFERENCES: 91

11. Programming languages that require you to declare the data types of variables are called ____ typed programming languages.
- a. dynamic b. strongly
 - c. static d. loosely

ANSWER: b
POINTS: 1
REFERENCES: 92
93

12. JavaScript is a ____ programming language.
- a. static typed b. loosely typed

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- c. strongly typed d. numeric typed

ANSWER: b

POINTS: 1

REFERENCES: 93

13. A(n) ____ is a positive or negative number with no decimal places.

- a. floating-point number b. scientific number
c. exponential number d. integer

ANSWER: d

POINTS: 1

REFERENCES: 93

14. A literal string can be assigned a zero-length string value called a(n) ____ string.

- a. empty b. undefined
c. short d. byte

ANSWER: a

POINTS: 1

REFERENCES: 98

15. You can use the compound ____ to combine two strings.

- a. value separator b. equals comparison
c. assignment operator d. declaration operator

ANSWER: c

POINTS: 1

REFERENCES: 100

16. A(n) ____ tells the compiler or interpreter that the character that follows it has a special purpose.

- a. exclamation point b. escape character
c. null character d. upper case character

ANSWER: b

POINTS: 1

REFERENCES: 101

17. The strict equal operator is ____.

- a. = b. ==
c. === d. !=

ANSWER: c

POINTS: 1

REFERENCES: 104

118

119

18. You can use an arithmetic operator to return the modulus of a calculation, which is the ____ when you divide one number by another number.

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- a. remainder left b. quotient
- c. product d. difference

ANSWER: a

POINTS: 1

REFERENCES: 105

19. The And operator is ____.

- a. != b. ||
- c. && d. ===

ANSWER: c

POINTS: 1

REFERENCES: 104
123
124

20. The ____ operator executes one of two expressions based on the results of a conditional expression.

- a. . b. ()
- c. , d. ?:

ANSWER: d

POINTS: 1

REFERENCES: 125

21. Which arithmetic operators have the highest precedence?

- a. * / % b. < <=
- c. && d. + -

ANSWER: a

POINTS: 1

REFERENCES: 127
128

22. Which of the following is a logical operator?

- a. ++ b. ()
- c. == d. ||

ANSWER: d

POINTS: 1

REFERENCES: 123
124

23. Which of the following is a falsy value?

- a. true b. -1
- c. 0 d. 1

ANSWER: c

POINTS: 1

REFERENCES: 122

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24. Function statements are contained within the function _____.

- a. parameters b. braces
- c. arguments d. parentheses

ANSWER: b

POINTS: 1

REFERENCES: 75

25. The variables or values that you place in the parentheses of a function call statement are called _____.

- a. string operators b. primitive types
- c. arguments d. event listeners

ANSWER: a

POINTS: 1

REFERENCES: 79

Completion

26. Placing a parameter name within the parentheses of a function definition is the equivalent of declaring a new _____.

ANSWER: variable

POINTS: 1

REFERENCES: 75

27. A(n) _____ type is the specific category of information that a variable contains.

ANSWER: data

POINTS: 1

REFERENCES: 91

28. Sending arguments to the parameters of a called function is called _____ arguments.

ANSWER: passing

POINTS: 1

REFERENCES: 79

29. A(n) _____ variable is declared inside a function and is available only within the function in which it is declared.

ANSWER: local

POINTS: 1

REFERENCES: 87

30. A(n) _____ operator requires an operand before and after the operator.

ANSWER: binary

POINTS: 1

REFERENCES: 105

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Matching

Identify the letter of the choice that best matches the phrase or definition.

- a. `addEventListener()`
- b. function call
- c. postfix operator
- d. scope
- e. Boolean
- f. function definition
- g. operator precedence
- h. floating-point
- i. falsy
- j. `innerHTML`

REFERENCES: 81
79
109
87
97
74
127
93
122
116

31. Method that lets you specify an event handler for an event

ANSWER: a

POINTS: 1

32. The lines that make up a function

ANSWER: f

POINTS: 1

33. A logical value of true or false

ANSWER: e

POINTS: 1

34. The code that invokes a named function

ANSWER: b

POINTS: 1

35. Can be either global or local

ANSWER: d

POINTS: 1

36. A number that contains decimal places or that is written in exponential notation

ANSWER: h

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POINTS: 1

37. A value treated in comparison operations as the Boolean value `false`

ANSWER: i

POINTS: 1

38. Placed after a variable

ANSWER: c

POINTS: 1

39. The order in which operations in an expression are evaluated

ANSWER: g

POINTS: 1

40. A property whose value is the content between an element's opening and closing tags

ANSWER: j

POINTS: 1

Subjective Short Answer

41. Describe the two types of functions and explain when you'd use each type.

ANSWER:

JavaScript supports two different kinds of functions: named functions and anonymous functions. A named function is a set of related statements that is assigned a name. You can use this name to reference, or call, this set of statements in other parts of your code. An anonymous function, on the other hand, is a set of related statements with no name assigned to it. The statements in an anonymous function work only in a single context—the place in the code where they are located. You cannot reference an anonymous function anywhere else in your code.

Generally, you use a named function when you want to be able to reuse the function statements within your code, and you use an anonymous function for statements that you need to run only once.

POINTS: 1

REFERENCES: 74

42. Define variable scope, and describe the two types of variable scope and how you create each.

ANSWER:

When you use a variable in a JavaScript program, particularly a complex JavaScript program, you need to be aware of the variable scope—that is, you need to think about where in your code a declared variable can be used. A variable's scope can be either global or local. A global variable is one that is declared outside a function and is available to all parts of your code. A local variable is declared inside a function and is available only within the function in which it is declared. Local variables cease to exist when a function ends. If you attempt to use a local variable outside the function in which it is declared, browsers log an error message to the console.

POINTS: 1

REFERENCES: 87

43. JavaScript supports five primitive data types. Name and describe these types.

ANSWER: Number: Positive or negative numbers with or without decimal places, or numbers written using exponential notation.

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Boolean: A logical value of true or false.

String: Text such as "Hello World".

Undefined: A variable that has never had a value assigned to it, has not been declared, or does not exist.

Null: An empty value.

POINTS: 1

REFERENCES: 91

44. Operator precedence is the system that determines the order in which operations in an expression are evaluated.

ANSWER: The term operator precedence refers to the order in which operations in an expression are evaluated.

POINTS: 1

REFERENCES: 127

45. What is a browser console and how is it useful for a web developer?

ANSWER: When a browser encounters an error that keeps it from understanding code, it generates an error message. However, this message is displayed in a pane known as a browser console, or simply console, which is hidden by default to avoid alarming users. As a developer, however, it can be useful to display the browser console pane to see any errors that your code may generate.

POINTS: 1

REFERENCES: 83

46. What is the relationship between Boolean values, truthy values, and falsy values?

ANSWER: A Boolean value is a logical value of true or false. You can also think of a Boolean value as being yes or no, or on or off. Boolean values are most often used for deciding which code should execute and for comparing data. In JavaScript programming, you can only use the words `true` and `false` to indicate Boolean values.

JavaScript includes six values that are treated in comparison operations as the Boolean value `false`. These six values, known as falsy values, are `""`, `-0`, `0`, `NaN`, `null`, and `undefined`. All values other than these six falsy values are the equivalent of Boolean `true`, and are known as truthy values.

POINTS: 1

REFERENCES: 97
122
123

47. What is the difference between the operation of the `+` operator with numbers and with strings? Provide an example of each, including the results.

ANSWER: When used with numbers, the `+` operator adds the operands. For instance, the statement `5 + 3` would produce the result 8.
When used with strings, the `+` operator concatenates the operands. For instance, the statement `"side" + "walk"` would produce the result `"sidewalk"`.

POINTS: 1

REFERENCES: 100
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48. What are the differences between using a the increment and decrement unary operators as prefix operators versus using them as postfix operators?

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ANSWER: The increment (++) and decrement (--) unary operators can be used as prefix or postfix operators. A prefix operator is placed before a variable name. A postfix operator is placed after a variable name. The operands ++count and count++ both increase the count variable by one. However, the two statements return different values. When you use the increment operator as a prefix operator, the value of the operand is returned *after* it is increased by a value of one. When you use the increment operator as a postfix operator, the value of the operand is returned *before* it is increased by a value of one. Similarly, when you use the decrement operator as a prefix operator, the value of the operand is returned *after* it is decreased by a value of one, and when you use the decrement operator as a postfix operator, the value of the operand is returned *before* it is decreased by a value of one. If you intend to assign the incremented or decremented value to another variable, then whether you use the prefix or postfix operator makes a difference.

POINTS: 1

REFERENCES: 109

49. Explain what logical operators are, and then list the 3 JavaScript logical operators and explain what each does.

ANSWER: Logical operators are used to modify Boolean values or specify the relationship between operands in an expression that results in a Boolean value.

&& (And) returns `true` if both the left operand and right operand return a value of `true`; otherwise, it returns a value of `false`

|| (Or) returns `true` if either the left operand or right operand returns a value of `true`; if neither operand returns a value of `true`, then the expression containing the || operator returns a value of `false`

! (Not) returns `true` if an expression is `false`, and returns `false` if an expression is `true`

POINTS: 1

REFERENCES: 123

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50. What are the advantages of using the `addEventListener()` method instead of the other two methods to specify an event handler?

ANSWER: One drawback of specifying event handlers with HTML attributes is they require developers to place JavaScript code within HTML code. Just as developers generally avoid using inline CSS styles to keep HTML and CSS code separate, most developers prefer not to mix HTML and JavaScript code in the same file. Instead, they maintain separate HTML and JavaScript files.

When you specify an event handler as a property value for the object representing an HTML element, you can assign only one event handler per event. In more complex code, you might want to specify several event handlers to fire in response to a given event.

Using `addEventListener()` lets you keep your JavaScript code separate from your HTML, and allows you to specify more than one event handler for a given event on a single element.

POINTS: 1

REFERENCES: 80

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