Multiple-choice questions (MCQs) on JavaScript variables, identifiers, and statements.

1. What keyword is used to declare a variable in JavaScript?

a. variable
b. declare
c. var
d. let

2. Which of the following is a valid JavaScript identifier?

a. 1variable
b. _user_name
c. $total#amount
d. javascript-variable

3. What is the purpose of the `const` keyword in JavaScript?

a. It declares a constant variable that cannot be reassigned.
b. It declares a variable with a constant value of 1.
c. It creates a constant loop in the program.
d. It stands for "continue statement."

4. What will be the output of the following code?

```
let x =10;
console.log("x is ", x);
```


a. x is 10
b. x is 0
c. Error
d. Undefined

5. How many statements are in the following code?

```
let x =10; y=20; z=30;
console.log("x is ", x);
```

a. 2
b. 3

c. 4
d. 5

6. What is the correct way to comment a single line in JavaScript?

a. // This is a comment
b. /* This is a comment */
c. # This is a comment
d. ' This is a comment

7. What will be the output of the following code?

```
let x;
console.log("x is ", x);
```

a. x is x
b. x is 0
c. Error
d. Undefined

8. What will be the output of the following code?

```
const x=10;
x=20
console.log("x is ", x);
```

a. x is x
b. x is 10
c. Error
d. Undefined

9. What is the purpose of the `let` keyword in JavaScript?

a. It declares a constant variable.
b. It declares a variable with a block scope.
c. It declares a global variable.
d. It declares a variable with a fixed value.

10. How do you declare a multi-line comment in JavaScript?

a. // This is a comment
b. /* This is a comment */
c. # This is a comment
d. ' This is a comment

11. What is the primary purpose of a JavaScript variable?
a. To store and manipulate data
b. To create loops
c. To declare functions
d. To perform mathematical operations

12. Which of the following is NOT a valid way to declare a variable in JavaScript?
a. var x = 10;
b. let y = 20;
c. constant z = 30;
d. const w = 40;

13. What is the significance of the JavaScript `null` value?
a. It represents an empty string.
b. It represents an undefined variable.
c. It explicitly represents nothing or no value.
d. It indicates a syntax error in the code.

14. Which symbol is used for a strict equality check in JavaScript?
a. ==
b. ===
c. =
d. !=

15. What is the purpose of the JavaScript `switch` statement?
a. To declare variables
b. To perform a conditional execution of code based on multiple conditions
c. To create loops
d. To define functions

16. Which of the following is a valid JavaScript identifier for a function?
a. 123function
b. _calculateSum

c. $average#value
d. function-abc

17. What does the JavaScript `break` statement do?
a. Ends the execution of a loop or switch statement.
b. Skips the current iteration of a loop.
c. Creates a new variable.
d. Declares a constant.

18. What is the purpose of the JavaScript `continue` statement?
a. Ends the execution of a loop.
b. Skips the remaining code in a loop and continues with the next iteration.
c. Declares a new variable.
d. Breaks out of a switch statement.

19. Which of the following statements is used to print a message to the console in JavaScript?
a. display()
b. log()
c. print()
d. console.log()

20. In JavaScript, what is the role of the `typeof` operator?
a. It checks if a variable is defined.
b. It determines the data type of a variable.
c. It performs a strict equality check.
d. It declares a new variable.

Answers:

1. c & d
2. b. _user_name
3. a. It declares a constant variable that cannot be reassigned.
4. a.
5. c
6. a. // This is a comment
7. d.
8. c
9. b. It declares a variable with a block scope.
10. b. /* This is a comment */

11. a. To store and manipulate data
12. c. constant z = 30; (should be `const` instead of `constant`)
13. c. It explicitly represents nothing or no value.
14. b. ===
15. b. To perform a conditional execution of code based on multiple conditions
16. b. _calculateSum
17. a. Ends the execution of a loop or switch statement.
18. b. Skips the remaining code in a loop and continues with the next iteration.
19. d. console.log()
20. b. It determines the data type of a variable.

Interview questions related to JavaScript variables, identifiers, and statements:

Variables:

1. What is a variable in JavaScript?
2. How do you declare a variable in JavaScript?
3. What are the different types of variable declarations in JavaScript?
4. Explain the difference between `var`, `let`, and `const` in variable declarations.
5. What is variable hoisting in JavaScript?
6. Can you reassign a value to a variable declared with `const`? Why or why not?
7. What is the significance of the `undefined` value in JavaScript variables?

Identifiers:

8. What is an identifier in JavaScript?
9. What are the rules for naming variables in JavaScript?
10. Can JavaScript identifiers start with a number?
11. Explain the concept of camelCase in JavaScript identifiers.
12. What are reserved words in JavaScript, and why should you avoid using them as identifiers?

Statements:

13. What is a statement in JavaScript?
14. Differentiate between an expression and a statement.
15. How do you comment on a single line and multiple lines in JavaScript?

Below are the answers to the above questions:

Variables:

1. What is a variable in JavaScript?
   - A variable in JavaScript is a symbolic name for a value. It is a storage location that holds data, and its value can be changed during the execution of a program.

2. How do you declare a variable in JavaScript?
   - You can declare a variable in JavaScript using `var`, `let`, or `const` followed by the variable name. For example:
   ```javascript
   var x;
   let y;
   const z = 10;
   ```


3. What are the different types of variable declarations in JavaScript?
   - There are three ways to declare variables: `var`, `let`, and `const`. `var` has function-level scope, `let` has block-level scope, and `const` is used for constants with block-level scope.

4. Explain the difference between `var`, `let`, and `const` in variable declarations.
   - `var` has function-level scope and is hoisted, `let` has block-level scope and is hoisted but not initialized, and `const` also has block-level scope but cannot be reassigned after initialization.

5. What is variable hoisting in JavaScript?
   - Variable hoisting is a JavaScript behavior where variable declarations are moved to the top of their containing scope during the compilation phase. However, only the declaration is hoisted, not the initialization.

6. Can you reassign a value to a variable declared with `const`? Why or why not?
   - No, you cannot reassign a value to a variable declared with `const`. `const` creates a constant variable, and once a value is assigned, it cannot be changed.

7. What is the significance of the `undefined` value in JavaScript variables?
   - When a variable is declared but not assigned a value, its default value is `undefined`. It indicates that the variable exists in the current scope but has not been given a value.

Identifiers:

8. What is an identifier in JavaScript?
   - An identifier in JavaScript is a name given to a variable, function, or label. It is used to identify and reference these entities in the code.

9. What are the rules for naming variables in JavaScript?
   - Variable names must start with a letter, underscore (_), or dollar sign ($). Subsequent characters can also be digits (0-9).

10. Can JavaScript identifiers start with a number?
    - No, JavaScript identifiers cannot start with a number. They must begin with a letter, underscore, or dollar sign.

11. Explain the concept of camelCase in JavaScript identifiers.
    - CamelCase is a naming convention where the first letter of each word is capitalized except for the first word. It is commonly used in JavaScript for variable and function names (e.g., `myVariableName`).

12. What are reserved words in JavaScript, and why should you avoid using them as identifiers?
    - Reserved words are words that have a predefined meaning in JavaScript. They are part of the language syntax, and you should avoid using them as identifiers to prevent conflicts and unexpected behavior.

Statements:

13. What is a statement in JavaScript?
    - A statement in JavaScript is a complete unit of code that performs a specific action. Examples include variable declarations, loops, and conditional statements.

14. Differentiate between an expression and a statement.
    - An expression produces a value, while a statement performs an action. Expressions can be part of statements, but statements themselves do not produce values.

15. How do you comment on a single line and multiple lines in JavaScript?
    - Single-line comments are created with `//`, and multi-line comments are enclosed between `/*` and `*/`.