JavaScript 1

1. Name the three ways to declare a variable?

The answer:
- **Multiple variables in one line.**
- **Multiline variant.**
- **Multiple variables in multiline.**

2. Which of the three variable declarations should you avoid and why?

The answer:
- **Multiple variables in one line.**
- **Doesn't give better readability.**

3. What rules should you follow when naming variables?

The answer:
- **camelCase**

4. What should you look out for when using the + operator with numbers and strings?

The answer:
- **the operator + can mean two different things, 1-string concatenation 2-numeric addition**

5. How does the % operator work?

The answer:
- **The remainder (%) operator returns the remainder left over when one operand is divided by a second operand.**

6. Explain the difference between == and ===.

The answer:
- **== means the equality test.**
- **if a and b are of different types, then a === b immediately returns false without an attempt to convert them.**

7. When would you receive a NaN result?

The answer:
- **whenever we try to convert something that doesn't have numeric content into a number with the Number function.**

8. How do you increment and decrement a number?

The answer:
- **The increment operator (++) increments its operand by 1 ; that is, it adds 1 to the existing value. There's a corresponding decrement operator (--) that decrements a variable's value by 1.**

9. Explain the difference between prefixing and post-fixing increment/decrement operators.

The answer:
- **Both of these operators can be used either prefix (++i, --i) or postfix (i++, i--).**

- **If used prefix, the value is incremented/decremented, and the value of the expression is the updated value.**
- **If used postfix, the value is incremented/decremented, and the value of the expression is the original value.**

10. What is operator precedence and how is it handled in JS?

The answer:
- **Operator precedence describes the order in which operations are performed in an arithmetic expression.**

11. How do you log information to the console?

The answer:
- **Using console.log().**

12. What does unary plus operator do to string representations of integers?

The answer:
- **The Unary (+) can convert string representations of integers and floats.**

13. What are the eight data types in JavaScript?

The answer:
- **String.**
- **Number.**
- **Bigint.**
- **Boolean.**
- **Undefined.**
- **Null.**
- **Symbol.**
- **Object.**

14. Which data type is NOT primitive?

The answer:
- **object.**

15. What is the relationship between null and undefined?

The answer:
- **null is an assigned value. It means nothing. undefined means a variable has been declared but not defined yet.**

16. What is the difference between single, double, and backtick quotes for strings?

The answer:
- **The only noticeable difference between single quotes and double quotes comes into play when we have to escape characters.**
- **If you use single quotes to create a string, you can not use single quotes within that string without escaping them using a backslash (\).**
- **backticks are mostly used for HTML or code embedding purposes, they also act similar to single and double quotes. Besides, using backticks**

makes it easier for string operations 1- Easy string concatenation 2-You don't need to escape single or double quotes 3- Can write multiline without using the new line character.

17. What is the term for embedding variables/expressions in a string?

The answer:

- **string interpolation.**

18. Which type of quote lets you embed variables/expressions in a string?

The answer:

- **backtick ``.**

19. How do you embed variables/expressions in a string?

The answer:

- **Using ${}.**

20. How do you escape characters in a string?

The answer:

- **using the \ (backslash) character.**

21. What is the difference between the slice/substring/substr string methods?

The answer:

- **The slice() method extracts a part of a string.**
- **The slice() method returns the extracted part in a new string.**
- **The slice() method does not change the original string.**
- **The substring() method extracts characters, between two indices (positions), from a string, and returns the substring.**
- **The substring() method extracts characters from start to end (exclusive).**
- **The substring() method does not change the original string.**
- **The substr() method extracts a part of a string.**
- **The substr() method begins at a specified position, and returns a specified number of characters.**
- **The substr() method does not change the original string.**

22. What are the three logical operators and what do they stand for?

The answer:

Logic operators are used to find the logic between variables in JavaScript.There are three logical operators in JavaScript: || (OR), && (AND), ! (NOT).

23. What are the comparison operators?

The answer:

- **A comparison operator compares its operands and returns a logical value based on whether the comparison is true. The operands can be numerical, string, logical, or object values.**

24. What are truthy and falsy values?

The answer:
- **Truthy values are values that evaluate to True in a boolean context. Falsy values are values that evaluate to False in a boolean context.**

25. What are the falsy values in JavaScript?

The answer:
- **undefined , null , NaN , 0 , "" (empty string), and false.**

26. What are conditionals?

The answer:
- **Conditional statements control behavior in JavaScript and determine whether or not pieces of code can run.**

27. What is the syntax for an if/else conditional?

The answer:
- **Use if to specify a block of code to be executed, if a specified condition is true**
- **Use else to specify a block of code to be executed, if the same condition is false**
- **if (condition) {**
- **// block of code to be executed if the condition is true**
- **} else {**
- **// block of code to be executed if the condition is false**
- **}**

28. What is the syntax for a switch statement?

The answer:
- **Use the switch statement to select one of many code blocks to be executed.**
- **switch(*expression*) {**
- **case *x*:**
- **// code block**
- **break;**
- **case *y*:**
- **// code block**
- **break;**
- **default:**
- **// code block**
- **}**

29. What is the syntax for a ternary operator?

The answer:
- **The ternary operator is a conditional operator which evaluates either of two expressions – a true expression and a false expression – based on a conditional expression that you provide.**
- **Here's the syntax:**
- **condition ? trueExpression : falseExpression.**

30. What is nesting?

The answer:

- **Nesting is when you write something inside of something else.**

31. What are functions useful for?

The answer:

- **Functions are the basic building block of JavaScript. Functions allow us to encapsulate a block of code and reuse it multiple times. Functions make JavaScript code more readable, organized, reusable, and maintainable.**

32. How do you invoke a function?

The answer:

- **The way to invoke a function is to refer to it by name, followed by parentheses.**

33. What are anonymous functions?

The answer:

- **an anonymous function is that type of function that has no name or we can say which is without any name.**
- **let x = function () {**
- **console.log('It is an anonymous function');**
- **};**

34. What is function scope?

The answer:

- **When you create a function, the variables and other things defined inside the function are inside their own separate scope, meaning that they are locked away in their own separate compartments, unreachable from code outside the functions.**
- **The top level outside all your functions is called the global scope. Values defined in the global scope are accessible from everywhere in the code.**
- **JavaScript has function scope: Each function creates a new scope.**
- **Variables defined inside a function are not accessible (visible) from outside the function.**
- **function myFunction() {**
- **let x = "text";   // Function Scope**
- **}**

35. What are return values?

The answer:

- **the values that a function returns when it has completed.**
- **the values that a function returns when it completes**
- **JavaScript passes a value from a function back to the code that called it by using the return statement.**

36. What are arrow functions?

The answer:

- **An arrow function expression is a compact alternative to a traditional function expression, with some semantic differences and deliberate**

limitations in usage:
- Arrow functions cannot use yield within their body and cannot be created as generator functions.