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JavaScript:-

1. **Scope of JavaScript**
   - We can declare the variables inside any function ,then its scope remain under that function, then there is a local scope of Var.
   - On the other hand, there is global scope, we can declare the variables anywhere & outside the function.
   - Syntax-

```
        let a = "u";
    {
    let a = "u6";
    console.log(a)
    }
    console.log(a)
```

2. Datatypes in JavaScript

   - String
   - Number
   - Bigint
   - Boolean
   - Undefined
   - Null
   - Symbol
   - Object

➢ The object data type can contain both **built-in objects**, and **user defined objects**
➢ Built-in object types can be:
        objects, arrays, dates, maps, sets, intarrays, floatarrays, promises, and more.

3. **Statements**
- **If statement:-** the if statement is used to evalaute a particular condition. If the condition holds true, the associated code block is executed.
- **Syntax-**

```
    if ( condition ) {
// If the condition is met,
//code  will get executed.}
```

- **If-else statement:-**The if-else statement will perform some action for a specific condition. Here we are using the else statement in which the else statement is written after the if statement and it has no condition in their code block.
- **Syntax-**

```
                if (condition1) {
    // Executes when condition1 is true
    if (condition2) {
        // Executes when condition2 is true
    }
```

- **Else-if statement:-** The else-if statement in javascipt allows handling multiple possible conditions and outputs,evaluating more than two options based on whter the conditions are true or false.
- **Syntax-**

```
            if (1st condition) {
    // Code for 1st condition
} else if (2nd condition) {
    // ode for 2nd condition
} else if (3rd condition) {
    // Code for 3rd condition
} else {
    //  ode that will execute if all
    // above conditions are false}
```

- **Switch statement:-** As the number of conditions increases, you can multiple else-if statements in javascipt. But when we dealing with many conditions, the switch statement may be a more preferred option.
- **Syntax-**

```
            switch (expression) {
    case value1:
        statement1;
        break;
    case value2:
        statement2;
        break;
    . . .
    case valueN:
        statementN;
        break;
    default:
        statementDefault;
};
```

- **Ternary operator (?:) :-** The conditional operator, also reffered to as the ternary operator(?:), is a shortcut for expressing the conditional statements in javascript.
- **Syntax-**

```
        condition ? value if true : value if false
```

- **Nested if-else statement:-** Nested if -else statement in javascipts allow us to create a complex conditional logic bt checking the multiple conditions in a hierarchical manner. Each if statement can have an associated else block, and within each if or else block, you can nest another if slese statement.this nesting can continue to multiple levels, but it's important to maintain readability and avoid excessive complexity.
- **Syntax-**

```
        if (condition1) {
    // Code block 1
    if (condition2) {
        // Code block 2
    } else {
        // Code block 3
    }
} else {
    // Code block 4
}
```