

1) Write a short explanation of what a variable is and why it's used in javascript.

Variables:

Variables are used to store data in JavaScript. Variables are used to store reusable values. The values of the variables are allocated using the assignment operator("=").

Variable is used to Store Data



JavaScript Variables can be declared in 4 ways:

- **Automatically**
- **Using var**
- **Using let**
- **Using const**

Example:

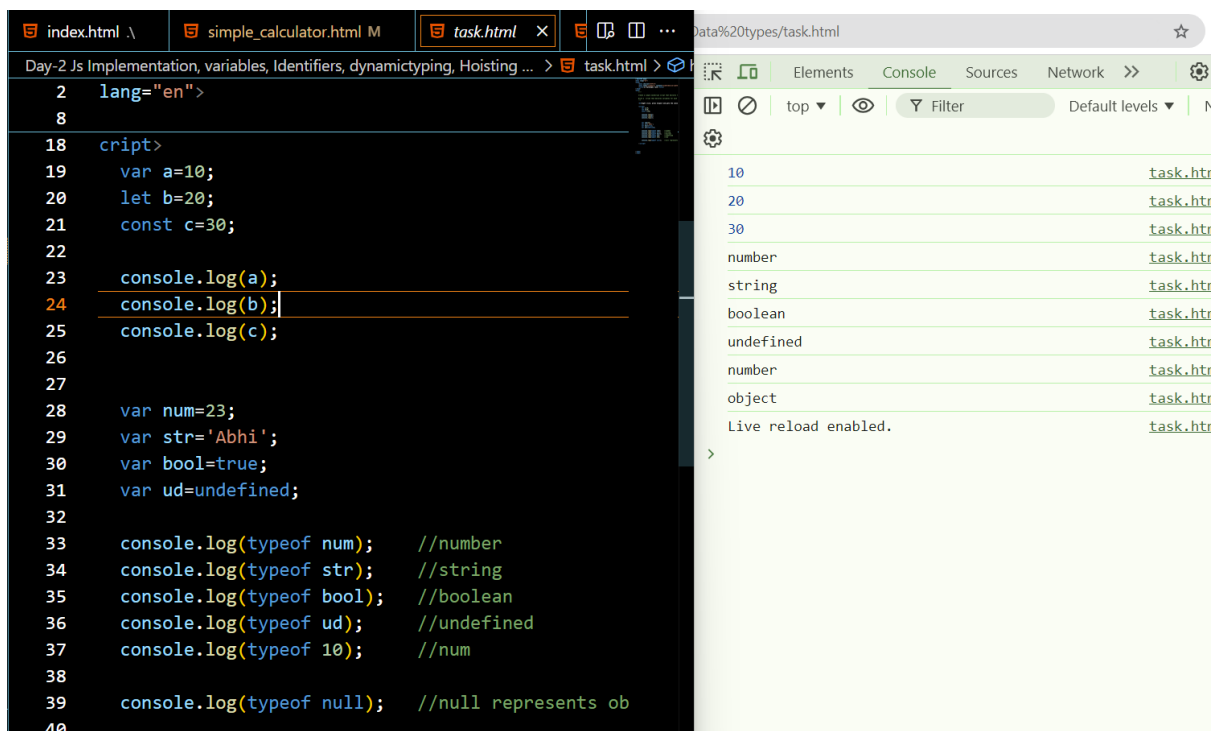
```
a=10;  
Var b=20;  
let c=5;  
Const d=15;
```

```
console.log(a); //10
console.log(a); //20
console.log(a); //5
console.log(a); //15
```

Rules for Identifiers:

- Names can contain letters, digits, underscores, and dollar signs
- Identifier should not start with number
- Names must begin with a letter or _ or \$
- Names are case-sensitive
- Reserved words cannot be used as Identifier.

2) Create a simple JavaScript script that declares three different types of variables (var, let, and const) and prints their values to the console.



The screenshot shows a web browser with a JavaScript script running in the console. The script declares three variables: `a` (number), `b` (number), and `c` (number) using `var`, `let`, and `const` respectively. It then logs their values to the console. The output shows the values 10, 20, and 30. Below this, the script declares four more variables: `num` (number), `str` (string), `bool` (boolean), and `ud` (undefined) using `var`. It then logs their types using `typeof`. The output shows the types: number, string, boolean, and undefined. Finally, the script logs the type of `null`, which is `object`.

```
2  lang="en">
8
18  <script>
19    var a=10;
20    let b=20;
21    const c=30;
22
23    console.log(a);
24    console.log(b);
25    console.log(c);
26
27
28    var num=23;
29    var str='Abhi';
30    var bool=true;
31    var ud=undefined;
32
33    console.log(typeof num); //number
34    console.log(typeof str); //string
35    console.log(typeof bool); //boolean
36    console.log(typeof ud); //undefined
37    console.log(typeof 10); //num
38
39    console.log(typeof null); //null represents ob
40
```

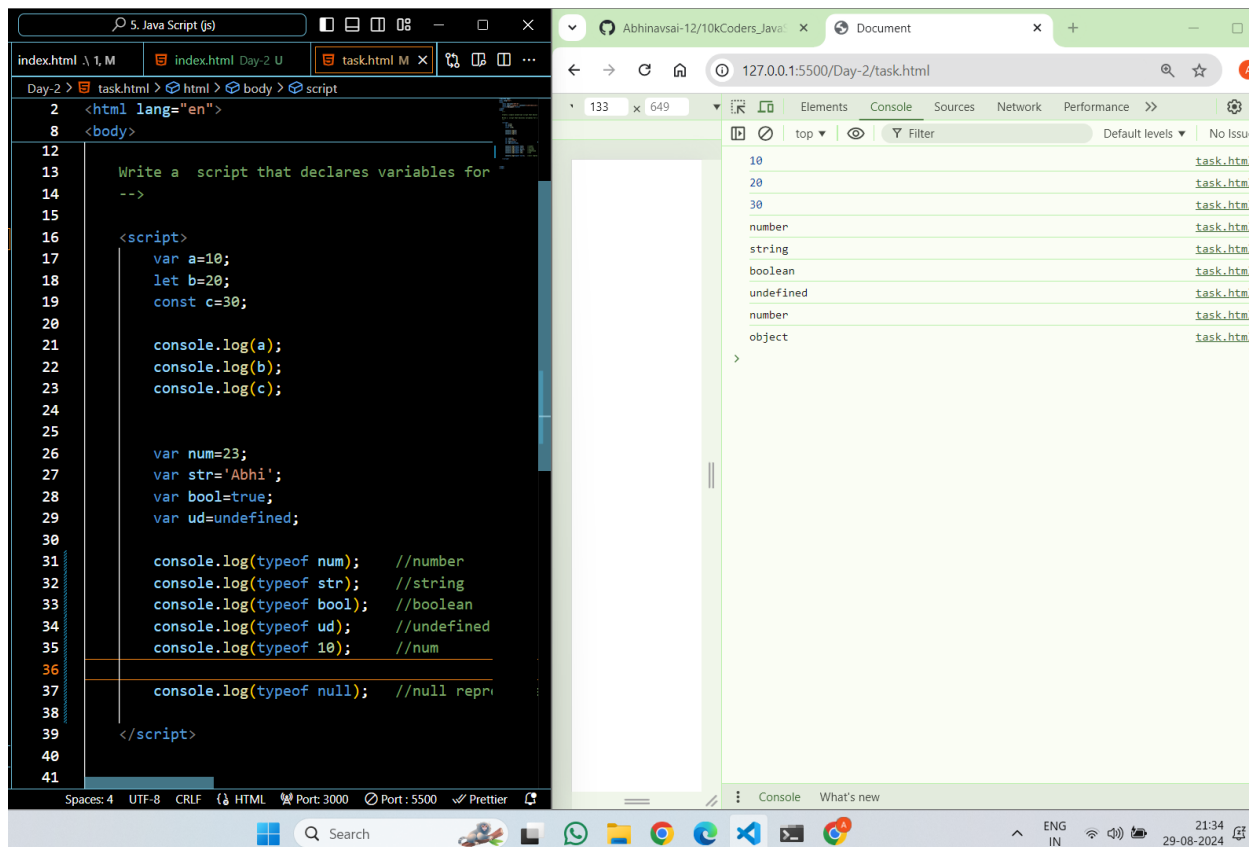
10 task.httr
20 task.httr
30 task.httr
number task.httr
string task.httr
boolean task.httr
undefined task.httr
number task.httr
object task.httr
Live reload enabled. task.httr

3) Write a script that declares variables for each data type and prints their types using the typeof operator.

Typeof:

The typeof operator returns the data type of a variable.

The JavaScript typeof operator returns the data type of a variable or expression. It's a unary operator placed before its operand and returns a string indicating the data type, such as "number", "string", "boolean", "object", "undefined", "function", or "symbol".



The screenshot shows a web browser window on the right and a code editor on the left. The browser's console displays the output of the JavaScript code, showing the data types of the variables declared in the script. The code editor shows the following code:

```
12 <html lang="en">
13 <body>
14   Write a script that declares variables for
15   -->
16   <script>
17     var a=10;
18     let b=20;
19     const c=30;
20
21     console.log(a);
22     console.log(b);
23     console.log(c);
24
25
26     var num=23;
27     var str='Abhi';
28     var bool=true;
29     var ud=undefined;
30
31     console.log(typeof num); //number
32     console.log(typeof str); //string
33     console.log(typeof bool); //boolean
34     console.log(typeof ud); //undefined
35     console.log(typeof 10); //num
36
37     console.log(typeof null); //null repr
38
39   </script>
40
41
```

The browser's console shows the following output:

```
10 task.htm
20 task.htm
30 task.htm
number task.htm
string task.htm
boolean task.htm
undefined task.htm
number task.htm
object task.htm
>
```