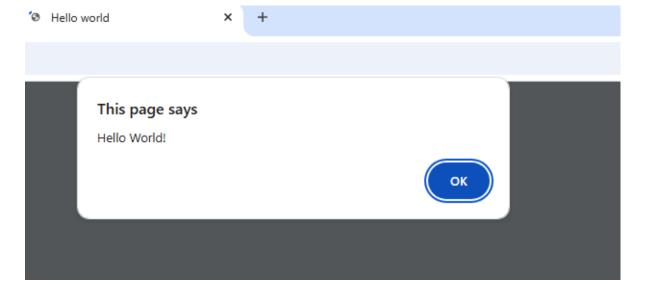
OUTPUT:



```
Elements Console Sources Network >> □ 1 ⓒ : X

□ O top ▼ ○ ▼ Filter Default levels ▼ 1 Issue: □ 1 ○

John task2.htm:11

10 task2.htm:12

true task2.htm:13

>
```

```
Elements Console Sources Network >> 

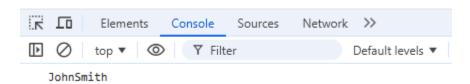
Default levels ▼

150

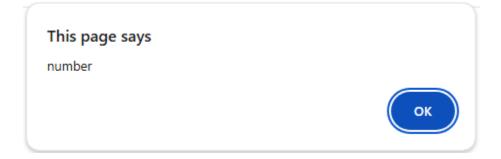
1.5

}
```

TASK 4

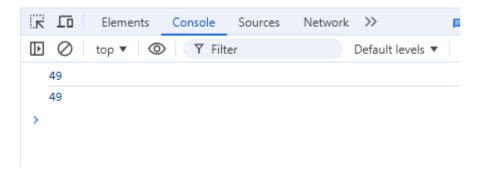






DIFFERENCE

- Single-line comments in JavaScript are pretty straightforward. They start with two slashes (//).
 Anything you write after these slashes on the same line won't run as code. It's just for you or others to read.
- For longer notes that take up more than one line, you use multi-line or block comments. These
 are surrounded by /* */. Everything between these markers is a comment, no matter how many
 lines it covers.



- **Semicolon-separation** makes the end of each statement explicit, reducing the chance of unexpected behavior, especially in complex or minified code.
- Non-semicolon-separation relies on ASI to automatically insert semicolons, which works in most simple cases, but can lead to subtle bugs or unexpected behavior, especially when multiple statements are written on a single line or in edge cases (e.g., return statements).

TASK 8

```
<html>
    <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-width,initial-scale=1.0">
        <body>
            <script>
           let mark=89;
           if(isNaN(mark)){
              alert("Please enter valid mark");
           else {
              if(mark<50){</pre>
                document.writeln("Fail");
              else if(mark>50){
                document.writeln("Congrats!!You've Passed");
            </script>
        </body>
</html>
```

Congrats!!You've Passed

TASK 9

OUTPUT:

```
Elements Console Sources Network >> ■ 1

Default levels ▼ 1 Issue

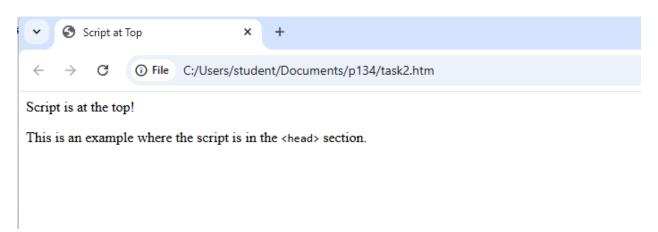
tas

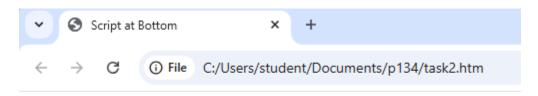
task

11

Elements Console Sources Network >>

Triple T
```





This is an example where the script is at the <body> section.

Script is at the bottom!

DIFFERENCE:

- Script in the <head>: This can be useful for essential scripts that need to be loaded early (e.g., polyfills, analytics scripts), but generally, it may slow down the page load and can cause issues with DOM manipulation.
- Script at the Bottom of the <body>: This is the best practice for most use cases because it avoids blocking the page rendering and ensures that the DOM is ready when the script runs.

For better performance and fewer potential issues, it's generally recommended to place <script> tags just before the closing </body> tag, unless there's a specific need to load the script earlier.

OUTPUT:

```
Elements Console Sources Network Performance >>

Default levels ▼ No

true

true
```

```
Elements Console Sources Network >> S

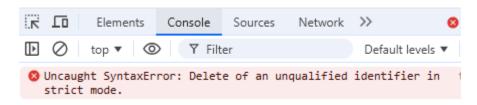
Default levels ▼

Uncaught ReferenceError: value is not defined at task2.htm:10:12

> |
```

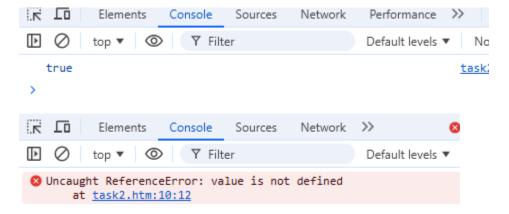
TASK 13

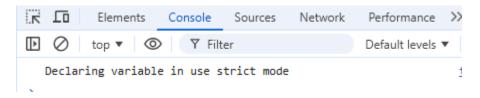
```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
<body>
   <script>
        "use strict";
var myVar = 10;
delete myVar;
"use strict";
function myFunction() {
  return "Hello!";
delete myFunction;
"use strict";
function myFunction(a) {
  delete a;
myFunction(5);
    </script>
</body>
</html>
```

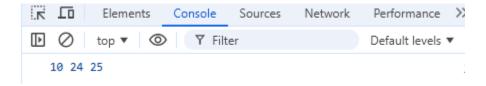


TASK 14:

```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
   <script>
    value=true;
     console.log(value);
    </script>
</body>
</ html>
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
   <script>
        "use strict";
     value=true;
      console.log(value);
    </script>
</body>
</html>
```

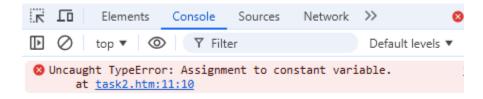




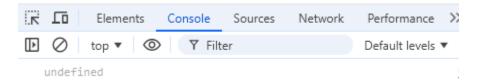


- **Avoid using var** in modern JavaScript because it has some tricky behaviors (like hoisting) and doesn't have block scope.
- If you need a variable to be scoped only to the function (not block), and you're working with older JavaScript code, you might still encounter var frequently.
- Use let for variables that need to be reassigned but should be confined to a specific block scope (e.g., loops, conditional statements).
- Use let when you need to declare variables inside a block of code that should not leak into the surrounding code.
- Use const for variables that should never be reassigned. This is the preferred choice for constants, function references, and other values that should remain unchanged after initialization.
- **Use const for all variables** whose reference or value should remain constant (e.g., configuration settings, array or object references, etc.).

OUTPUT:

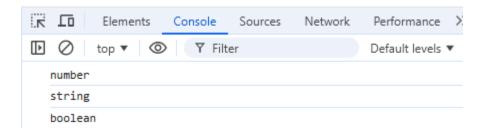


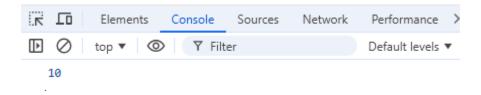
TASK 18



```
<!DOCTYPE html>
<html lang="en">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
    <script>
       let x=10;
        console.log(typeof x);
        let name="Alice";
        console.log(typeof name);
        let value=true;
        console.log(typeof value);
    </script>
</body>
</html>
```

OUTPUT:





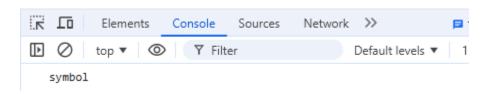
```
<html>
    <meta charset="UTF-8">
    <meta name:"viewport" content="width=device-width,initial-scale=1.0">
</head>
<body>
    <script>
        let name="John";
        console.log(name);
        let num=10;
        console.log(num);
        let value=true;
        console.log(value);
        let x=null;
        console.log(x);
        let y;
        console.log(y);
        let Student={
            number: 134,
            StudentName:"Alice"
        }
        console.log(Student.number,Student.StudentName);
</body>
</html>
```

```
K [0
                                                     □1 🛞 🗄 ×
                                  Network >>
         Elements
                  Console
                          Sources
Default levels ▼ 1 Issue: ■ 1 🛞
  John
                                                       task2.htm:9
  10
                                                      task2.htm:11
  true
                                                      task2.htm:13
  null
                                                      task2.htm:15
  undefined
                                                      task2.htm:17
  134 'Alice'
                                                      task2.htm:22
```

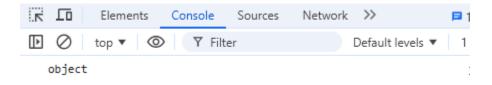
```
<html>
   <meta charset="UTF-8">
    <meta name:"viewport" content="width=device-width,initial-scale=1.0">
</head>
<body>
   <script>
       let name="John";
        console.log(typeof name);
        let num=10;
        console.log(typeof num);
        let value=true;
        console.log(typeof value);
        let x=null;
        console.log(typeof x);
        let y;
        console.log(typeof y);
        let Student={
            number: 134,
            StudentName: "Alice"
        console.log(typeof Student.number, typeof Student.StudentName);
</script>
</body>
</html>
```

TASK 23

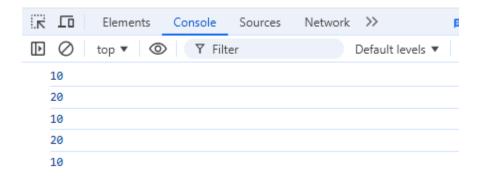
OUTPUT:



```
console.log(typeof a);
</script>
</body>
</html>
```



```
<html>
<head>
    <meta charset="UTF-8">
    <meta name:"viewport" content="width=device-width,initial-scale=1.0">
</head>
<body>
    <script>
    function exampleVar() {
    var a = 10;
    if (true) {
        var b = 20;
    console.log(a);
    console.log(b);
exampleVar();
function exampleLet() {
    let a = 10;
    if (true) {
        let b = 20;
        console.log(a);
        console.log(b);
    console.log(a);
exampleLet();
</script>
</body>
</html>
```



- var is function-scoped, meaning it is accessible throughout the entire function, regardless of block boundaries. It has potential pitfalls with hoisting and unintentional variable overwrites.
- let is **block-scoped**, making it a more predictable choice for modern JavaScript development, especially when dealing with blocks, loops, or conditionals. It reduces the chance of variable leakage and improves code clarity.

In modern JavaScript, it's generally recommended to use let (or const for constants) instead of var for better scoping and fewer errors.

```
<html>
    <meta charset="UTF-8">
    <meta name:"viewport" content="width=device-width,initial-scale=1.0">
<body>
    <script>
    let str = "123";
let num = str * 1;
console.log(num);
console.log(typeof num);
let str1 = "123";
let num1 = Number(str1);
console.log(num);
console.log(typeof num1);
</script>
</body>
</html>
```

```
Elements Console Sources Network >> 

Default levels ▼

123

number

123

number
```

TASK 27

```
<html>
   <meta charset="UTF-8">
    <meta name:"viewport" content="width=device-width,initial-scale=1.0">
</head>
<body>
    <script>
   let boolValue = true;
let strValue = boolValue.toString();
console.log(strValue);
console.log(typeof strValue);
let strValue1 = "hello";
let boolValue1 = Boolean(strValue1);
console.log(boolValue1);
let emptyStr = "";
let boolEmpty = Boolean(emptyStr);
console.log(boolEmpty);
</script>
</body>
</html>
```

```
Elements Console Sources Network >> 

Default levels ▼

true

string

true

false
```

OUTPUT:

```
Elements Console Sources Network >> 

Default levels ▼

Printer

Default levels ▼

25

5

150

1.5

5
```

```
</script>
</body>
</html>
```

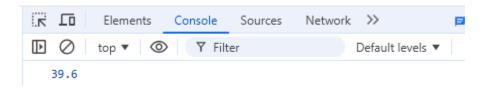
```
Elements Console Sources Network >> 

Default levels ▼

15 17

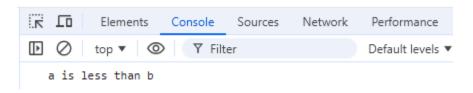
10 8
```

TASK 30

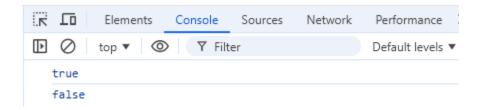


```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-width,initial-scale=1.0">
        <title>TASK</title>
    </head>
    <body>
        <script>
            let a=10;
            let b=15;
            if(a<b){</pre>
                 console.log("a is less than b");
            else if(a>b){
                console.log("a is grater than b");
            else if(a<=b){</pre>
                console.log("a is less than equal to b ");
            else {
                console.log("a is grater than equal to b");
        </script>
    </body>
</html>
```

OUTPUT:



```
let b="10";
    console.log(a==b);
    console.log(a===b);
    </script>
    </body>
</html>
```



- == allows **type coercion**, making comparisons "looser" but sometimes unpredictable.
- === is **strict** and avoids type coercion, making comparisons more reliable.

```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-width,initial-scale=1.0">
        <title>TASK</title>
    </head>
    <body>
        <script>
            let a="CAT";
            let b="10";
           console.log(a==b);
           console.log(a===b);
           console.log(a<b);</pre>
           console.log(a>b);
           console.log(a<=b);</pre>
           console.log(a>=b);
        </script>
    </body>
</html>
```

```
Elements Console Sources Network Performance

Default levels ▼

False

false

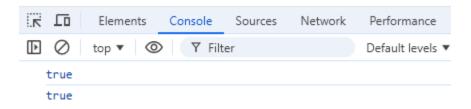
false

true

false

true
```

TASK 34



OUTPUT:

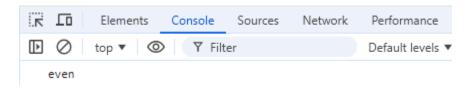
```
Elements Console Sources Network Performance >

Default levels ▼

true

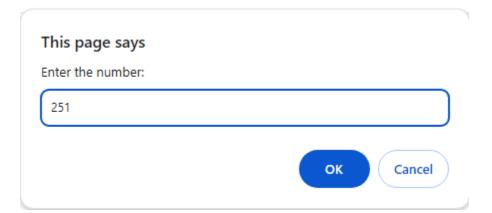
false
```

```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-width,initial-scale=1.0">
        <title>TASK</title>
    </head>
    <body>
        <script>
            let a=24;
             if(a\%2==0){
                console.log("even");
             else{
                console.log("odd");
        </script>
    </body>
</html>
```



TASK 37

```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-width,initial-scale=1.0">
        <title>TASK</title>
    </head>
    <body>
        <script>
          var num=prompt("Enter the number:");
          if(num<0){</pre>
            alert("Negative");
          else if(num>0){
            alert("Positive");
          else{
            alert("zero");
        </script>
    </body>
</html>
```



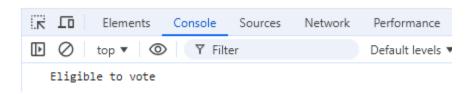
This page says

Positive



TASK 38

OUTPUT:



```
</script>
  </body>
</html>
```

```
Elements Console Sources Network Performance

Default levels ▼

Even
```

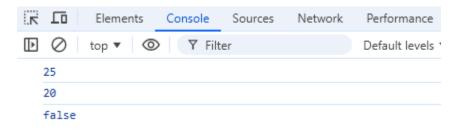
TASK 40

OUTPUT:

```
Elements Console Sources Network Performance

Default levels ▼

Positive
```



```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-width,initial-scale=1.0">
        <title>TASK</title>
    </head>
    <body>
        <script>
          var num1=20;
          if(num1>=10&&num1<=25){
            console.log("lies between 10 and 25");
          else {
            console.log("Not in the range");
        </script>
    </body>
</html>
```

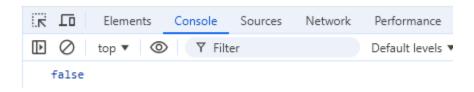
```
Elements Console Sources Network Performance >

Default levels ▼

1ies between 10 and 25
```

TASK 43

OUTPUT:



```
console.log(num&&num1);
    console.log(num||num1);
    </script>
    </body>
</html>
```

```
Elements Console Sources Network Performance

Default levels ▼

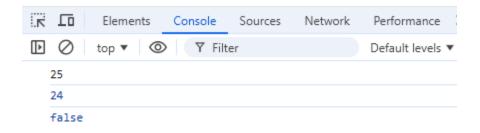
Performance

Performance

Default levels ▼
```

TASK 45

```
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <meta name:"viewport" content="width=device-width,initial-scale=1.0">
        <title>TASK</title>
    </head>
    <body>
        <script>
          var num=24,num1="25";
          console.log(num&&num1);
          console.log(num||num1);
          console.log(!num);
        </script>
    </body>
</html>
```



```
TASK 46
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<body>
<script>
let add=function sum(a,b){
  return a+b;
}
console.log(add(2,5));
</script>
</body>
</html>
OUTPUT:
                                                                       (<u>@</u>)
 K [0
            Elements
                      Console
                                Sources
                                          Network
                                                    Performance >>
 Default levels ▼
                                                                    No Issues
    7
                                                                   task.htm:12
TASK 47
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script>
let area=function rectArea(a,b){
   return a*b;
console.log(area(2,5));
</script>
</body>
</html>
OUTPUT:
                                                                       (<u>())</u>
 K [0
                                                    Performance >>
            Elements
                      Console
                                Sources
                                          Network
 Default levels ▼
                                                                    No Issues
    10
                                                                   task.htm:12
TASK 48
<!DOCTYPE html>
<html lang="en">
```

```
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<body>
<script>
function rectArea(){
  let a=20,b=25;
  return a*b;
console.log(rectArea());
</script>
</body>
</html>
OUTPUT:
 K [0
                                                                       (<u>@</u>)
            Elements
                      Console
                                Sources
                                          Network
                                                    Performance >>
                                                                               X
 top ▼ ◎ Y Filter
                                                                    No Issues
                                                    Default levels ▼
    500
                                                                   task.htm:13
TASK 49
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script>
function rectArea(){
  let a=20,b=25;
  return;
console.log(rectArea());
</script>
</body>
</html>
OUTPUT:
 K [0
                                                                       (B)
                                          Network
                                                    Performance
            Elements
                      Console
                                Sources
 Default levels ▼
                                                                    No Issues
    undefined
                                                                   task.htm:13
```

```
TASK 50
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script>
function mul(a,b=5){
  return a*b;
console.log(mul(355));
</script>
</body>
</html>
OUTPUT:
 K [0
                                                     Performance >>
            Elements
                       Console
                                 Sources
                                           Network
 \square
           Default levels ▼
                                                                     No Issues 🔞
    1775
                                                                    task.htm:12
 >
TASK 51
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script>
let greet=(name)=>{
  return "Hello "+name+"!";
}
console.log(greet("Alice"));
console.log(greet("John"));
console.log(greet("Smith"));
</script>
</body>
</html>
OUTPUT:
```

```
K [0
                                      Network
                                               Performance >>

⊕ : ×

                    Console
          Elements
                             Sources
 Default levels ▼
                                                             No Issues
   Hello Alice!
                                                             task.htm:12
   Hello John!
                                                             task.htm:13
   Hello Smith!
                                                            task.htm:14
TASK 52
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

<script> let add=(num1,num2)=>{

return num1+num2;

console.log(add(43,6));
console.log(add(4,645));

</script>

</body>

</head> <body>

</html>

OUTPUT:



```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script>
let isEven=(num)=>{
    if(num%2==0)
    return true;
else return false;
```

```
console.log(isEven(4365));
</script>
</body>
</html>
OUTPUT:
                                                                           (2)
 K [0
                        Console
                                                        Performance >>
                                                                                    ×
            Elements
                                  Sources
                                             Network
            top ▼ 💮
                        ▼ Filter
                                                                        No Issues
                                                       Default levels ▼
    false
                                                                       task.htm:14
  >
TASK 54
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<script>
let maxValue=(num1,num2)=>{
  if(num1>num2){
    return `${num1} is bigger`;
  }
  else return `${num2} is bigger`;
console.log(maxValue(43,6));
</script>
</body>
</html>
OUTPUT:
 K [0
                                                                            (<u>*)</u>3
                                                                                    X
                                                        Performance >>
             Elements
                        Console
                                   Sources
                                             Network
            top ▼
                    0
                          ▼ Filter
                                                        Default levels ▼
                                                                         No Issues
     43 is bigger
                                                                        task.htm:15
```

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
</head>
<body>
<script>
  let myObject={
    value:10,
    multiplyTraditional:function (num){
     return this.value*num;
    },
    multiplyArrow:(num)=>{
     return this.value*num;
    }
  }
console.log(myObject.multiplyTraditional(6));
console.log(myObject.multiplyArrow(10));
</script>
</body>
</html>
OUTPUT:
 K [0
                                                       Performance >>
                                                                          (2)
            Elements
                        Console
                                            Network
                                  Sources
 l b
                                                                       No Issues 🔞
                         ▼ Filter
                                                       Default levels ▼
    60
                                                                       task.htm:18
    NaN
                                                                       task.htm:19
```