

JavaScript's First Lesson

Questions

- Are you familiar with Programming?
- Which programming languages do you know?
- How much would you rate yourself in JavaScript out of 10?
- How much would you rate yourself in Python out of 10?

Why Learn JavaScript?

JavaScript is the world's most popular programming language.

JavaScript is the programming language of the Web.

JavaScript is easy to learn.

JavaScript is one of the 3 languages all web developers must learn:

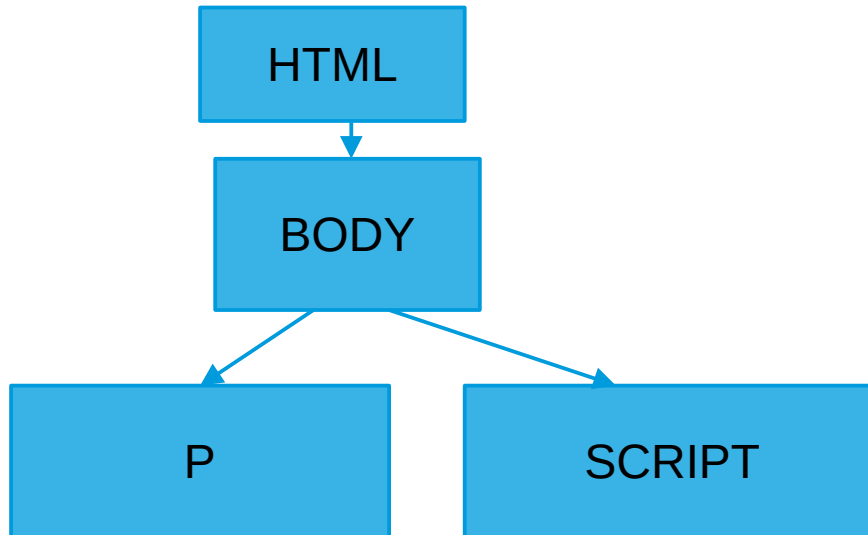
1. HTML to define the content of web pages
2. CSS to specify the layout of web pages
3. JavaScript to program the behavior of web pages

What is “document”?

In the JavaScript environment, an HTML page is represented by a variable called “document”.

What does this document contain?

Ans: A tree of elements



A couple of things to begin with that you can do with JavaScript

JavaScript Can Change HTML Content

JavaScript Can Change HTML Attribute Values

JavaScript Can Change HTML Styles (CSS)

JavaScript Can Hide HTML Elements

JavaScript Can Show HTML Elements

Where To Run JavaScript Code

The <script> Tag

In HTML, JavaScript code is inserted between <script> and </script> tags.

Example:

```
<script>  
document.getElementById("demo").innerHTML = "My First JavaScript";  
</script>
```

JavaScript Functions and Events:

A JavaScript function is a block of JavaScript code, that can be executed when "called" for.

For example, a function can be called when an event occurs, like when the user clicks a button.

An Example

```
<!DOCTYPE html>
<html>
<head>
<script>
function myFunction() {
  document.getElementById("demo").innerHTML = "Paragraph changed.";
}
</script>
</head>
<body>

<h2>Demo JavaScript in Head</h2>

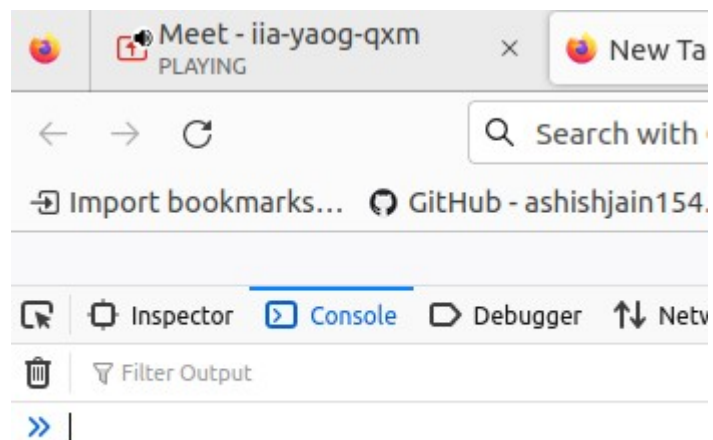
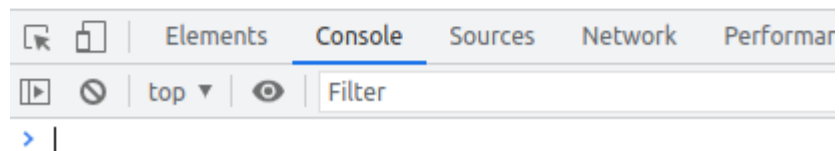
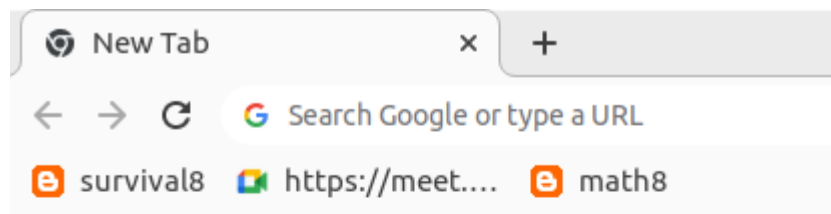
<p id="demo">A Paragraph</p>
<button type="button" onclick="myFunction()">Try it</button>

</body>
</html>
```

Have you any of experience of coding in JavaScript?

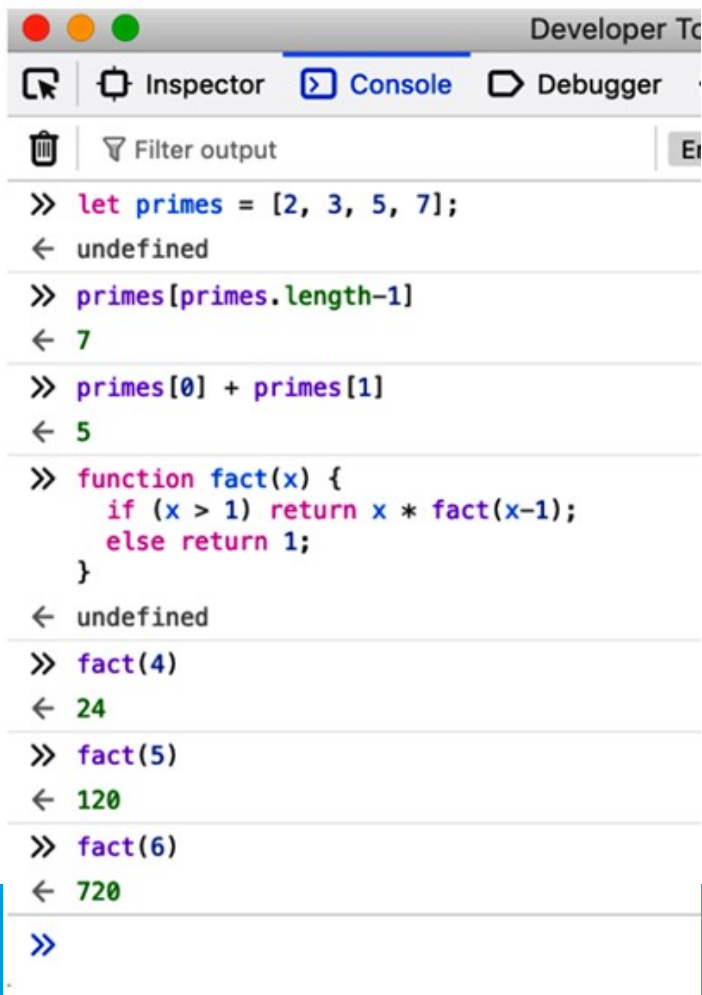
VSCode is not an environment. It is an editor.

- What was the environment you were coding in?
- Like: Console, or Browser, Node.js
- What is a Developer Console (or DevTools) in Browser?



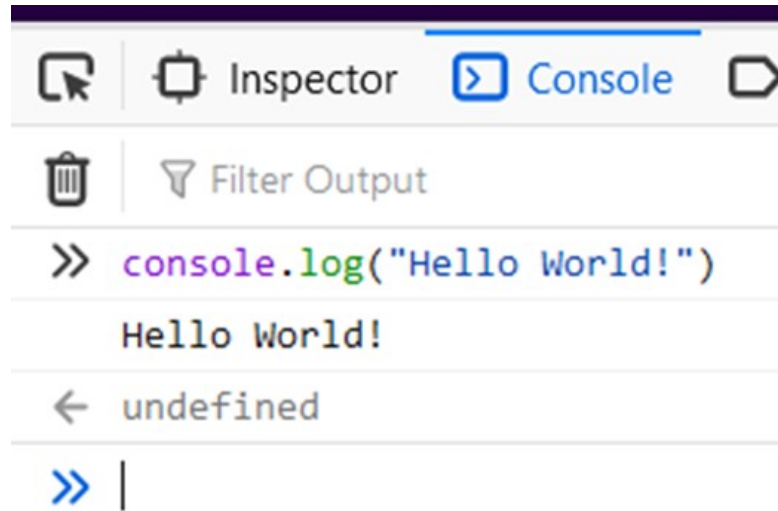
- Where to run the JavaScript code?
- In console
- In browser
- In Node.js environment

In Console



A screenshot of a web browser's developer console. The 'Console' tab is selected, showing a series of commands and their outputs. The code includes array creation, indexing, arithmetic, and a recursive function.

```
>> let primes = [2, 3, 5, 7];  
← undefined  
>> primes[primes.length-1]  
← 7  
>> primes[0] + primes[1]  
← 5  
>> function fact(x) {  
    if (x > 1) return x * fact(x-1);  
    else return 1;  
}  
← undefined  
>> fact(4)  
← 24  
>> fact(5)  
← 120  
>> fact(6)  
← 720  
>>
```



A screenshot of a web browser's developer console. The 'Console' tab is selected, showing a single command and its output.

```
>> console.log("Hello World!")  
Hello World!  
← undefined  
>> |
```

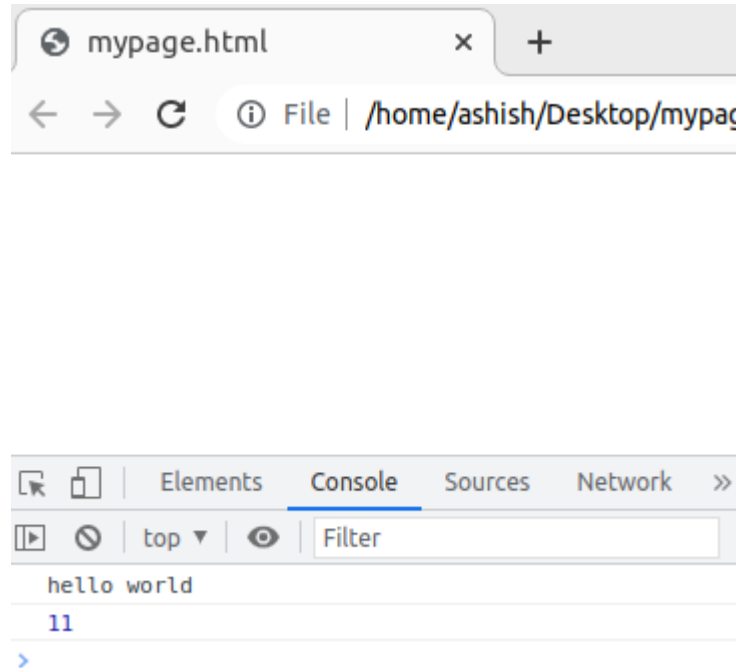


A screenshot of a Node.js REPL console. It shows a series of commands and their outputs, including a log statement, arithmetic, and variable assignments.

```
> console.log("Hello world")  
Hello world  
← undefined  
> 5+6  
← 11  
> 6*7  
← 42  
> a = 5  
← 5  
> b = 6  
← 6  
> a==b  
← false  
> |
```

In Browser

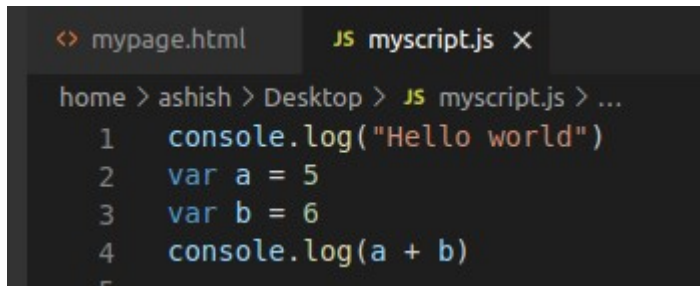
```
<> mypage.html x
home > ashish > Desktop > <> mypage.html > ...
1  <script>
2
3  console.log("hello world")
4
5
6  var a = 5
7  var b = 6
8  console.log(a+b)
9
10 </script>
11
```



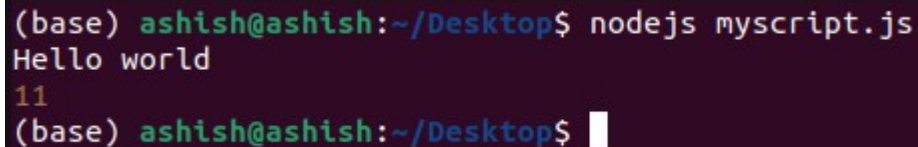
In Node.js

Installing Node.js on Ubuntu

- `$ sudo apt install nodejs`
`$ sudo apt install npm`



```
<> mypage.html JS myscript.js X
home > ashish > Desktop > JS myscript.js > ...
1 console.log("Hello world")
2 var a = 5
3 var b = 6
4 console.log(a + b)
5
```



```
(base) ashish@ashish:~/Desktop$ nodejs myscript.js
Hello world
11
(base) ashish@ashish:~/Desktop$
```

Thank you!