

JAVASCRIPT FRONT END

OBJECTIVES & SCHEDULE



OBJECTIVES

CHAPTER 1

- ✓ Be able to **code in JS** as well as in Python

CHAPTER 2

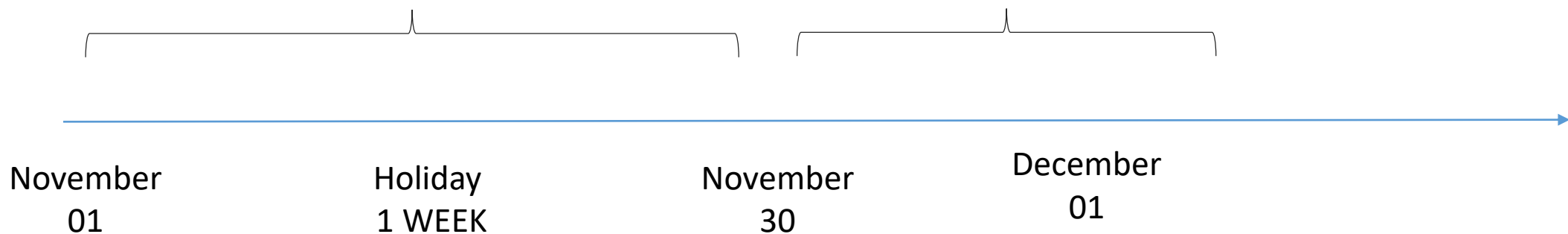
- ✓ Be able to **create elements** in HTML using JS
- ✓ Be able to **interact with events**
- ✓ Be able to **validate forms**
- ✓ **Create an application** to add, edit, remove items in a list



SCHEDULE

3 WEEKS
THEORY / PRACTICE

1 WEEK
PROJECT





EVALUATION

50 % FINAL EXAM

50 % PROJECT

YOUR BEHAVIOR IN CLASS

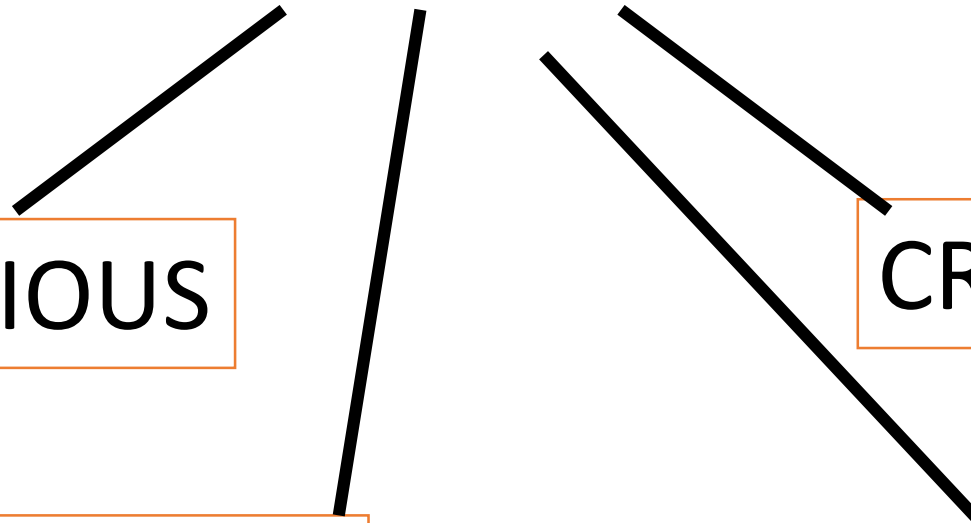
ACTIVE =

CURIOUS

CREATIVE

EXPRESS YOURSELF

WORK IN TEAM



CHAPTER 1

PYTHON *to* JS

PART 1

WHAT IS JAVASCRIPT ?



Team of 2



15 MIN



Open **/exercice1** and run the HTML

Q1 - What does the script is doing ?

Q2 - Remove the script –run – what's happen ?

Q3 – Between HTML and JS which one is start running first?

Q4 – Change the script to write THE BEST on the second paragraph

Q5 – Disable JavaScript on Chrome :

https://www.tutorialspoint.com/javascript/javascript_enabling.html

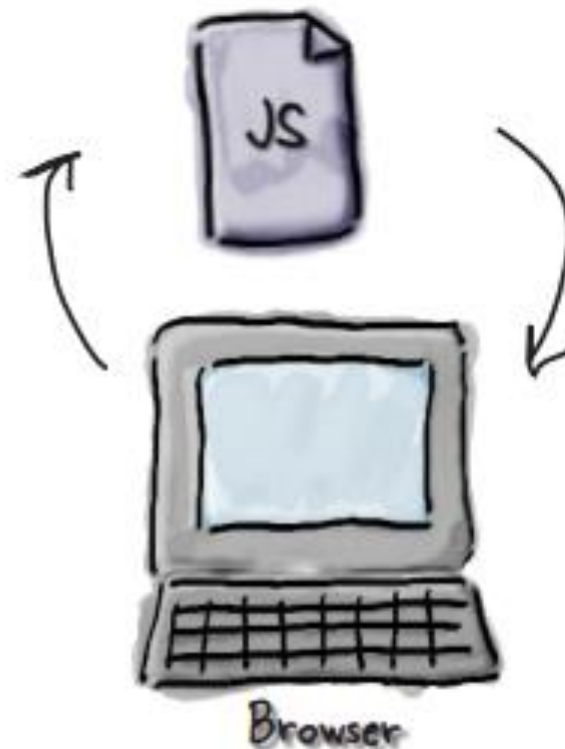
What 's happen ?



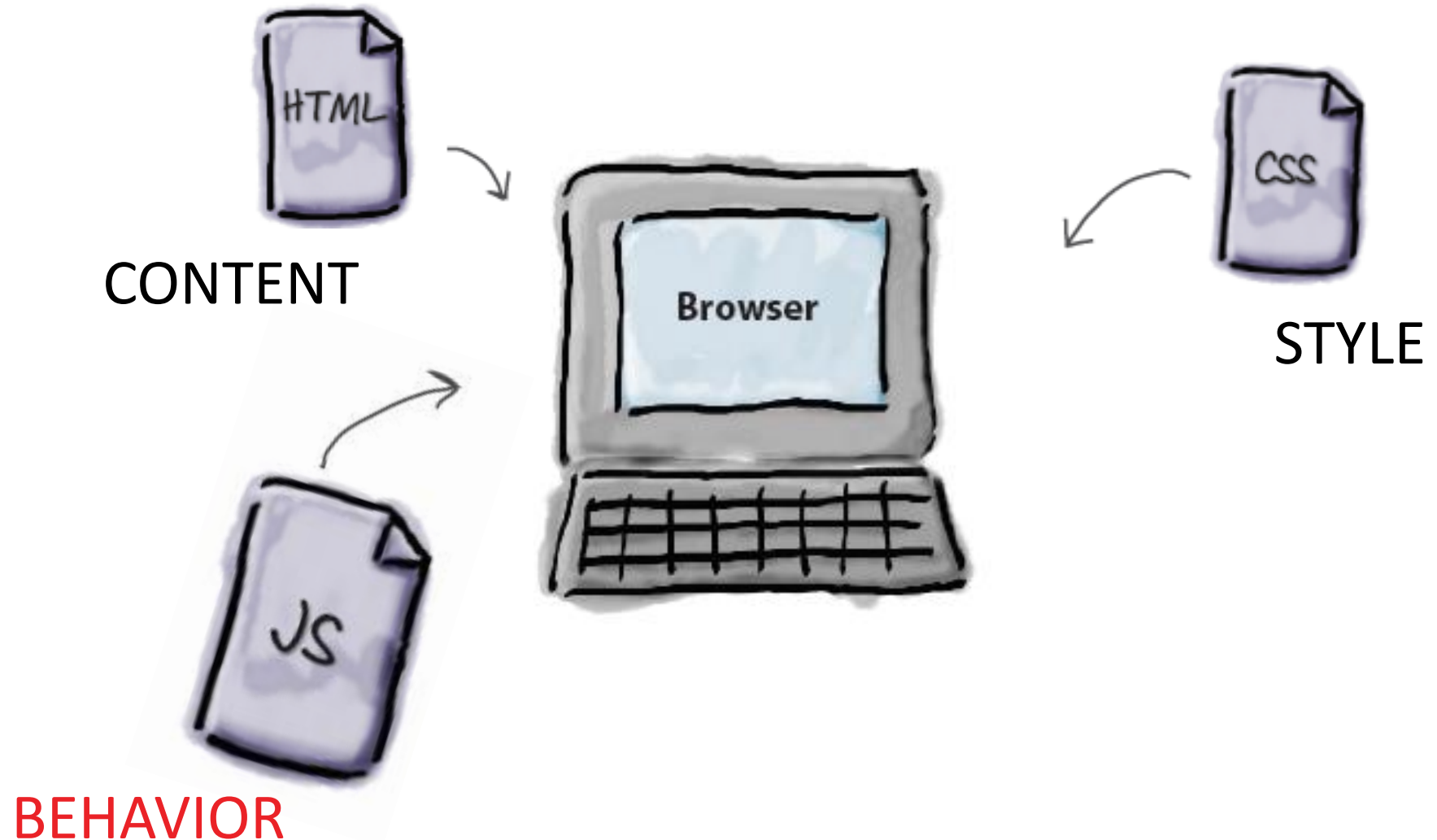
15 MIN

JS is the language understood by **browsers**

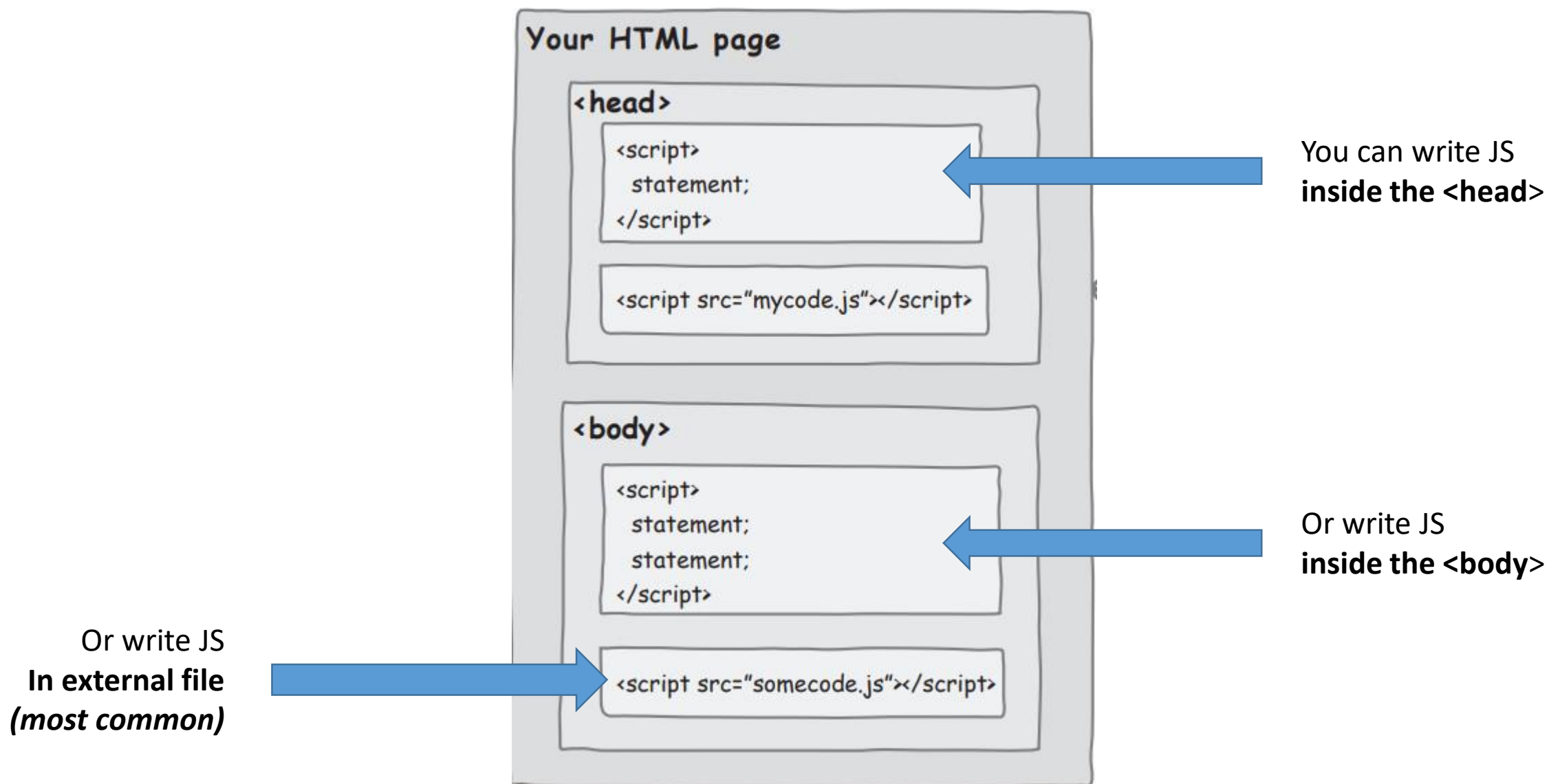
```
<html>
<head>
<title>Icecream</title>
<script>
  var x = 49;
</script>
<body>
<h1>Icecream Flavors</h1>
<h2><em>49 flavors</em></h2>
<p>All your favorite
flavors!</p>
</body>
</html>
```

Writing**1****Loading****2****Executing****3**

JS bring **the behavior** to your web application



Like CSS : **many places** to write your JS code





Team of 2



15 MIN

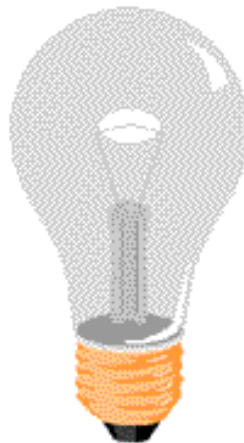


Open **/exercice2** and run the HTML

What Can JavaScript Do?

JavaScript can change HTML attribute values.

In this case JavaScript changes the value of the src (source) attribute of an image.



Turn off the light

Turn on the light

Q1 - Look at the code and find the way to turn on the light when we click on button ON

Note: you have 2 images...

External JS advantages

- ✓ It **separates** HTML and code
- ✓ It makes HTML and JavaScript **easier to read** and maintain
- ✓ Cached JavaScript files **can speed up page loads**



yourFile.**js**



Team of 2



15 MIN



Open **/exercice3**

Q1 - Read following page https://www.w3schools.com/js/js_output.asp

Understand how to :

- Write something in the console
- Write something in the HTML document
- Display an alert

Q2 - Edit the script to :

- Write something in the console
- Write something in the HTML document
- Display an alert

CORRECTION / DEMO

Can you access to the Console ?

The screenshot shows a web browser window with the title "Console Demo" and the URL "https://torch-calf.glitch.me". The browser's developer tools are open, with the "Console" tab selected. The console shows the following output:

```
Loading! (index):9
Hello, World! (index):11
Assertion failed: h2 not found! (index):12
(index):27
```

(index)	first	last
0	"René"	"Magritte"
1	"Chaim"	"Soutine"
2	"Henri"	"Matisse"

```
Array(3)
Hello, Console! (index):30
> |
```

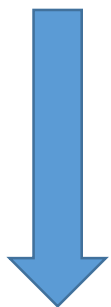
A blue arrow points from the text "Can you access to the Console ?" to the "Console" tab in the developer tools.

Hello, Console!

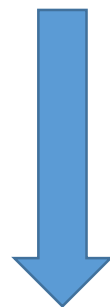


15 MIN

How to DEBUG ?



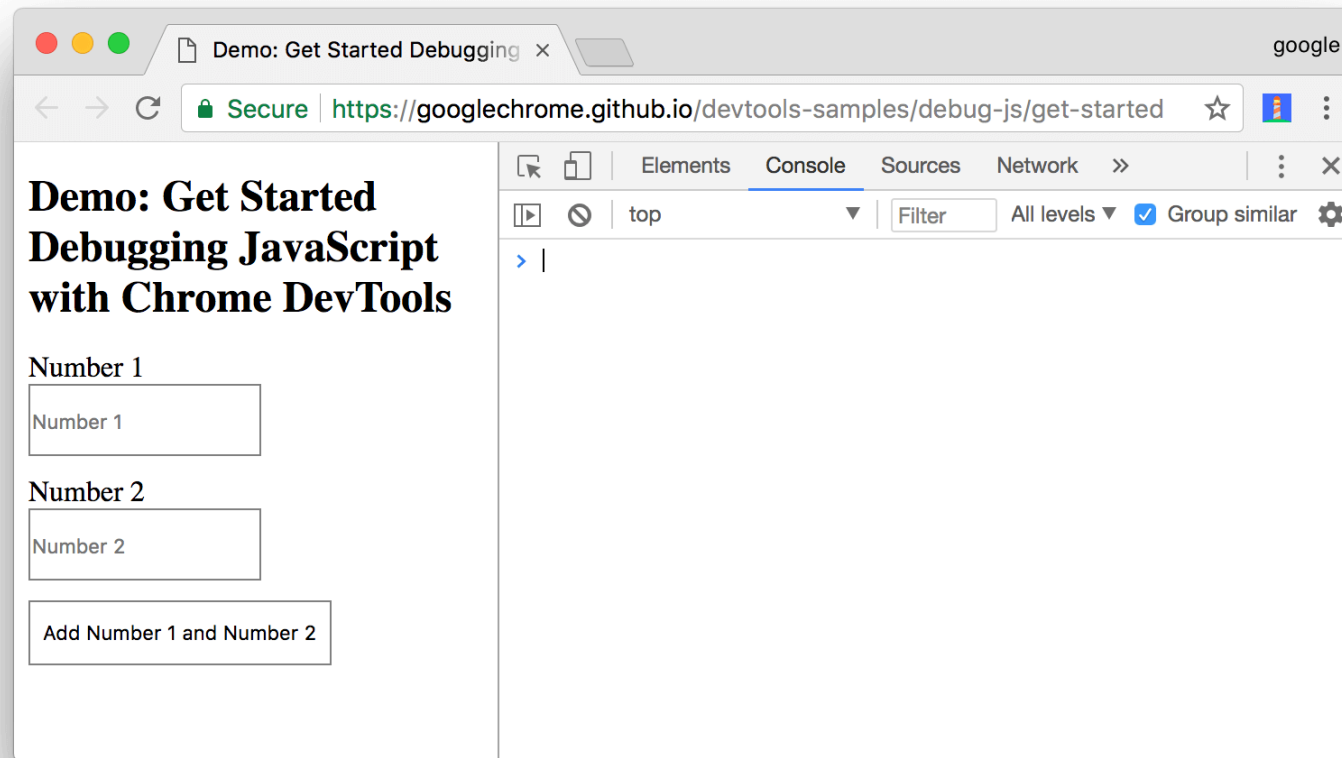
Using VS code



Using CHROME

More info : <https://developers.google.com/web/tools/chrome-devtools/javascript>

Open DevTools by pressing **Control+Shift+I**

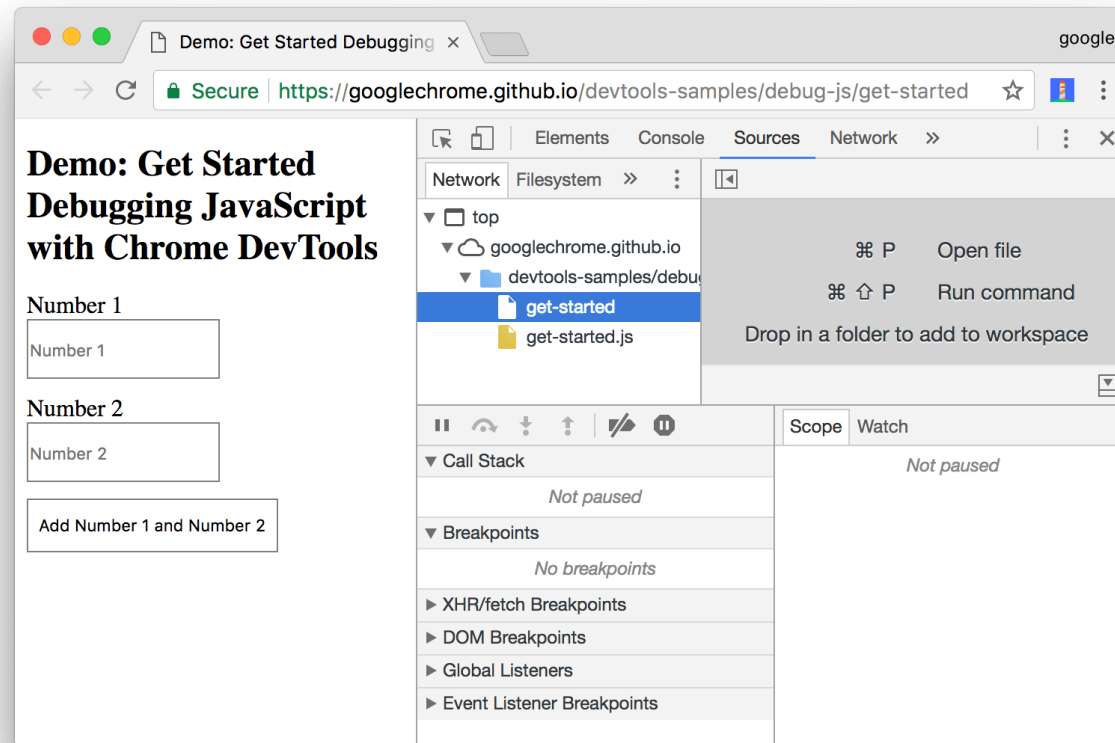




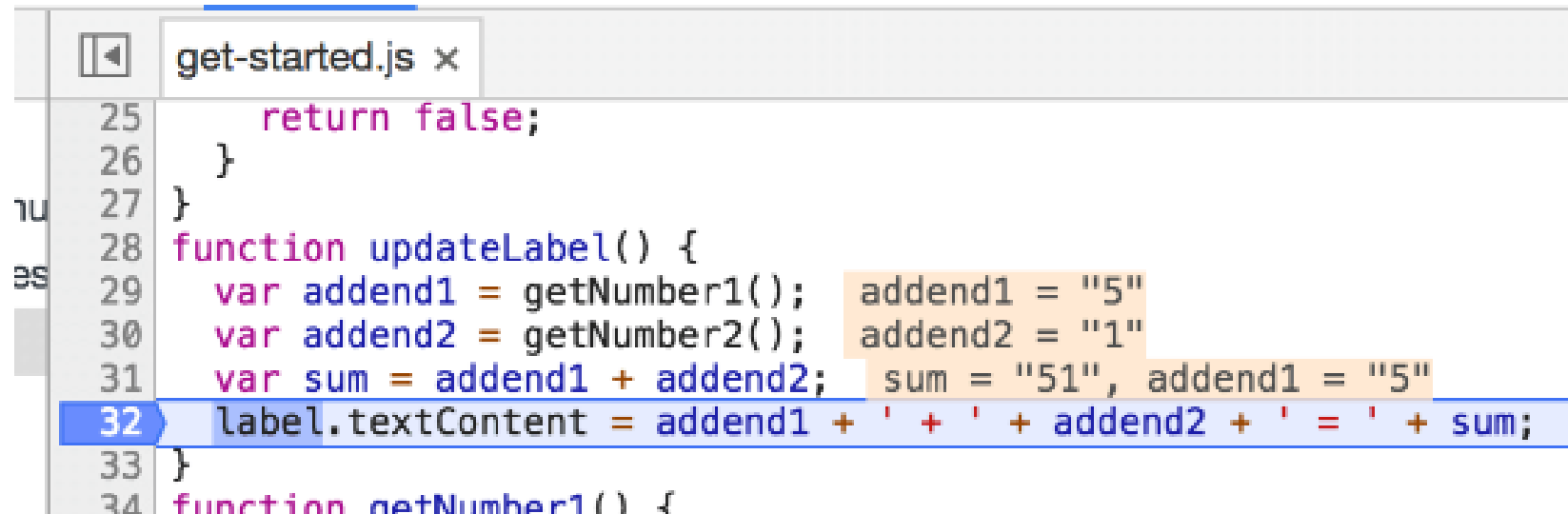
You can execute directly JS code in the chrome console !!!

```
> 5+15
< 20
> for (var i=0; i<10; i++) {
    console.log(i)
  }
0 VM200:2
1 VM200:2
2 VM200:2
3 VM200:2
4 VM200:2
5 VM200:2
6 VM200:2
7 VM200:2
8 VM200:2
9 VM200:2
< undefined
>
```

Click the **Sources** tab.



Add a **breakpoint** : click on the line you want the **code to stop**

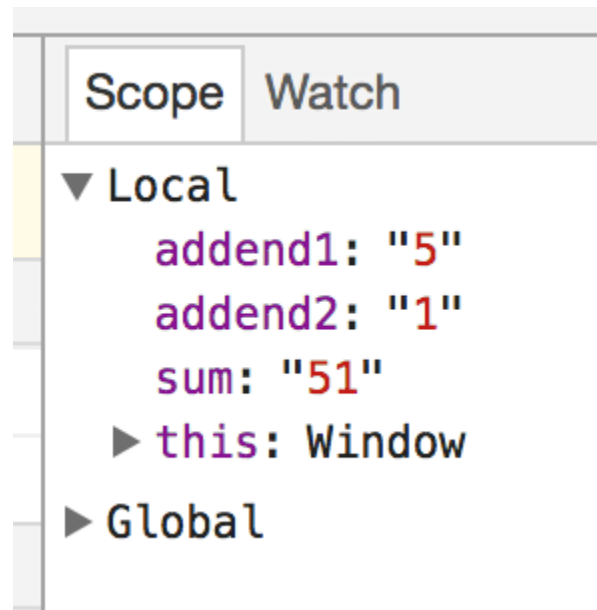


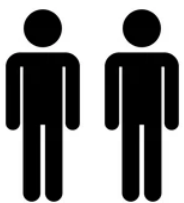
```
25     return false;
26 }
27 }
28 function updateLabel() {
29     var addend1 = getNumber1(); addend1 = "5"
30     var addend2 = getNumber2(); addend2 = "1"
31     var sum = addend1 + addend2; sum = "51", addend1 = "5"
32     label.textContent = addend1 + ' + ' + addend2 + ' = ' + sum;
33 }
34 function getNumber1() {
```

Use the debug navigation to go step by step or exit the debug mode



Check the variable of your code





Team of 2



15 MIN



Open /exercice4

1 – Execute the HTML in the browser

2– Add a break point **at line 14**



```
file:///
G:/Drive%20p
  temperatur
  cold.png

2 <html lang="en">
3   <head>
4     <meta charset="UTF-8" />
5     <title>SUNNY OR COLD ?</title>
6   </head>
7
8   <body>
9     <img id="fan" src="" width="1000" />
10
11    <script>
12      var temperature = prompt("What is the Temperature ?");
13
14      if (temperature <= 0) {
15        document.getElementById("fan").src = "cold.png";
16      } else if (temperature < 40) {
17        document.getElementById("fan").src = "nice.gif";
18      } else {
19        document.getElementById("fan").src = "sunny.png";
20      }
21    </script>
22  </body>
```

3– Go step by step in the IF / ELSE IF / ELSE condition

Try this for different temperatures