



Introduction to JavaScript Session-1



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Did you finish Javascript Core pre-class material?



Students choose an option



**Play
Kahoot!**



1

What is Environment?





Environment

Separation of a program's life cycle from building phase to delivery phase.

Generally, there are 3-4 distinct phases:

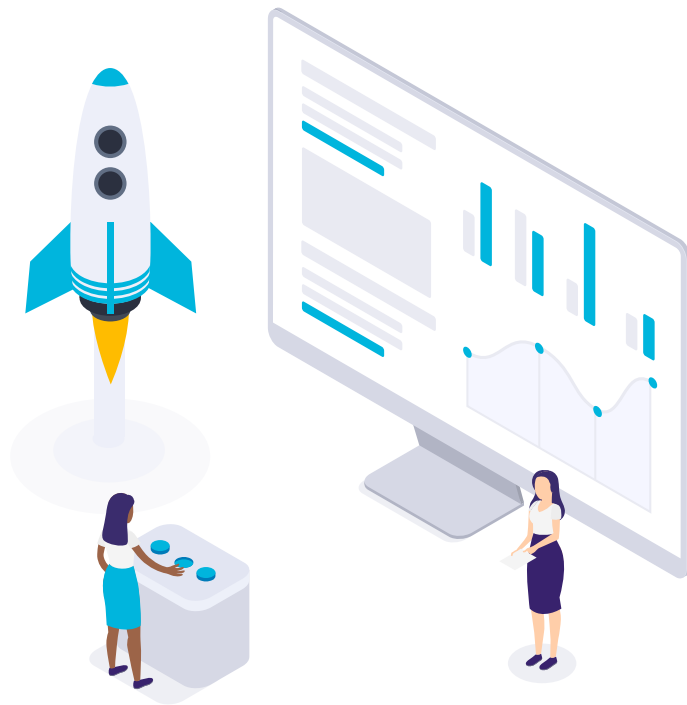
- ▶ **Development**
- ▶ Testing
- ▶ Staging (could be combined with testing)
- ▶ Production





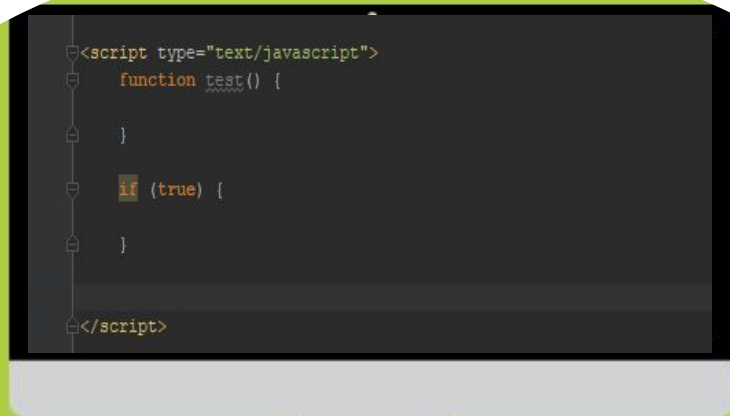
2

What is JavaScript?





What is JavaScript?



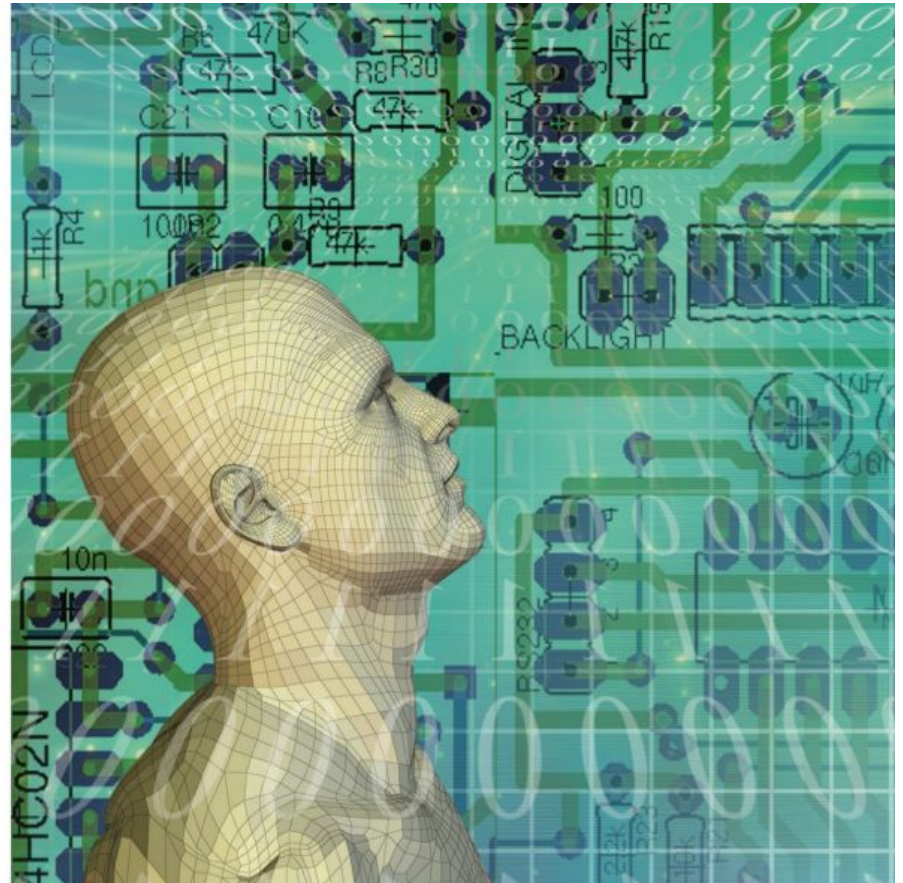
```
<script type="text/javascript">  
  function test() {  
  }  
  
  if (true) {  
  }  
  
</script>
```



Students, write your response!

JavaScript: Designing a Language in 10 Days

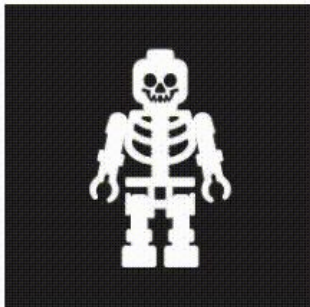
Charles Severance
University of Michigan



What is JavaScript?



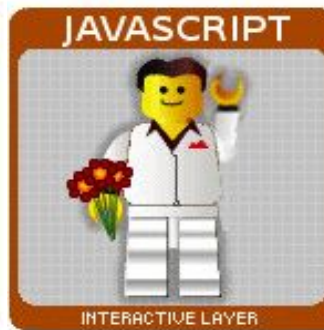
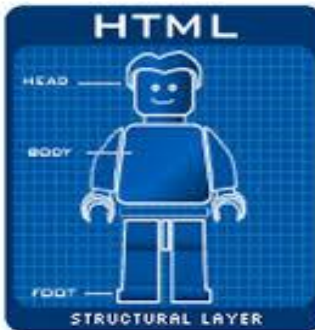
HTML
structure



CSS
presentation/appearance



JavaScript
dynamism/action



What is JavaScript?



JavaScript is a high-level, cross-platform, object-oriented computer programming language

It is also one of the core technologies of the web, along with HTML and CSS

JavaScript is used to create client-side dynamic pages





JAVA is to JavaScript?



Students choose an option



What is JavaScript?

JavaScript and Java Same?



Java

≠

JavaScript

NO

NO

NO

NO

JAVA *is to*
JAVASCRIPT

as

HAM *is to*
HAMSTER





What is JavaScript?

**JAVASCRIPT
IS
VERY
CASE SENSITIVE**

A \neq a



3

ECMAScript 2015 (ES6)



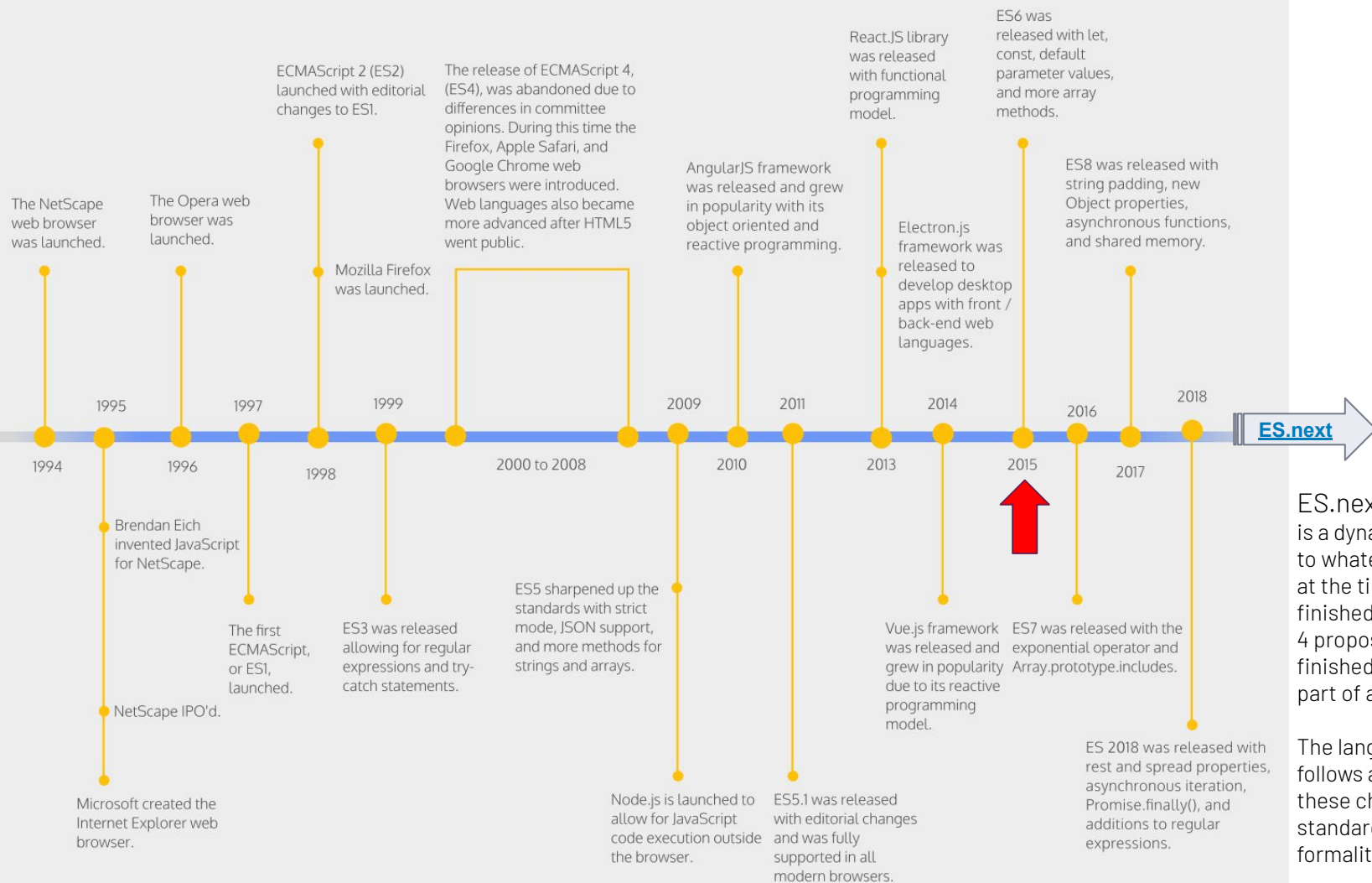
ECMAScript 2015 (ES6)

ECMAScript (ES) is a scripting language specification intended to standardize JavaScript

ECMAScript 2015, which is also known as ECMAScript 6 and ES6, is the sixth edition of the ECMAScript Language Specification standard

ES6 provides a new set of features and fixes to JavaScript





ES.next is a dynamic name that refers to whatever the next version is at the time of writing, includes finished proposals (aka "stage 4 proposals") as listed at finished proposals that are not part of a ratified specification.

The language committee follows a "living spec" model, so these changes are part of the standard, and ratification is a formality. [wikipedia](https://en.wikipedia.org/wiki/JavaScript)



4 Placement

Placement



Script and Statement

A **script** is a series of instructions that a computer can follow one by one. Each individual instruction or step is known as a **statement**. Statements should end with a semicolon.

```
var today = new Date();
var hourNow = today.getHours();
var greeting;

if (hourNow > 18) {
    greeting = 'Good evening';
} else if (hourNow > 12) {
    greeting = 'Good afternoon';
} else if (hourNow > 0) {
    greeting = 'Good morning';
} else {
    greeting = 'Welcome';
}
document.write(greeting);
```

Each of the lines of code in **green** is as statement

The **pink** curly braces indicate the start and end of a code block

The code in **purple** determines which code should run

Placement



A script is a series of instructions that a computer can follow one by one

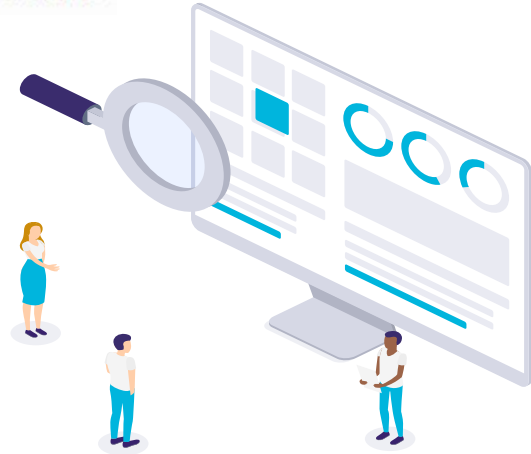
Each individual instruction or step is known as a statement. Statements should end with a semicolon

In HTML, JavaScript code must be inserted between **<script>** and **</script>**

You can place any number of scripts in an HTML document

Script tags can be inserted in the HTML page's **<body>** or **<head>** sections, or in both

```
<script>  
// script  
</script>
```





Placement

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <script>
5  .....
6  </script>
7  </head>
8  <body>
9  <script>
10     var name = "John"; //Statement
11 </script>
12 </body>
13 </html>
```

Syntax: <html>

```
<head>
  <script> .....
    //Internal script
  </script> .....
</head>
<body>
</body>
</html>
```

JavaScript code written inside head element

```
<html>
  <head>
  </head>
  <body>
    .....
    <script> .....
      //Internal script
    </script> .....
  </body>
</html>
```

JavaScript code written inside body element



External JavaScript

Scripts can be located in external files

External scripts are useful when the same code is used on many different web pages

To include an external JavaScript file in your HTML code, it is necessary to put the name of the script file in the src attribute of a `<script>` tag

An external script reference can be located in the `<body>` or `<head>` section of HTML page.

The file extension of JavaScript files is `.js`

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <!-- The script below linked from external file -->
5     <script src="myScript1.js"></script>
6   </head>
7   <body>
8     <!-- The script below linked from external file -->
9     <script src="myScript2.js"></script>
10  </body>
11 </html>
```



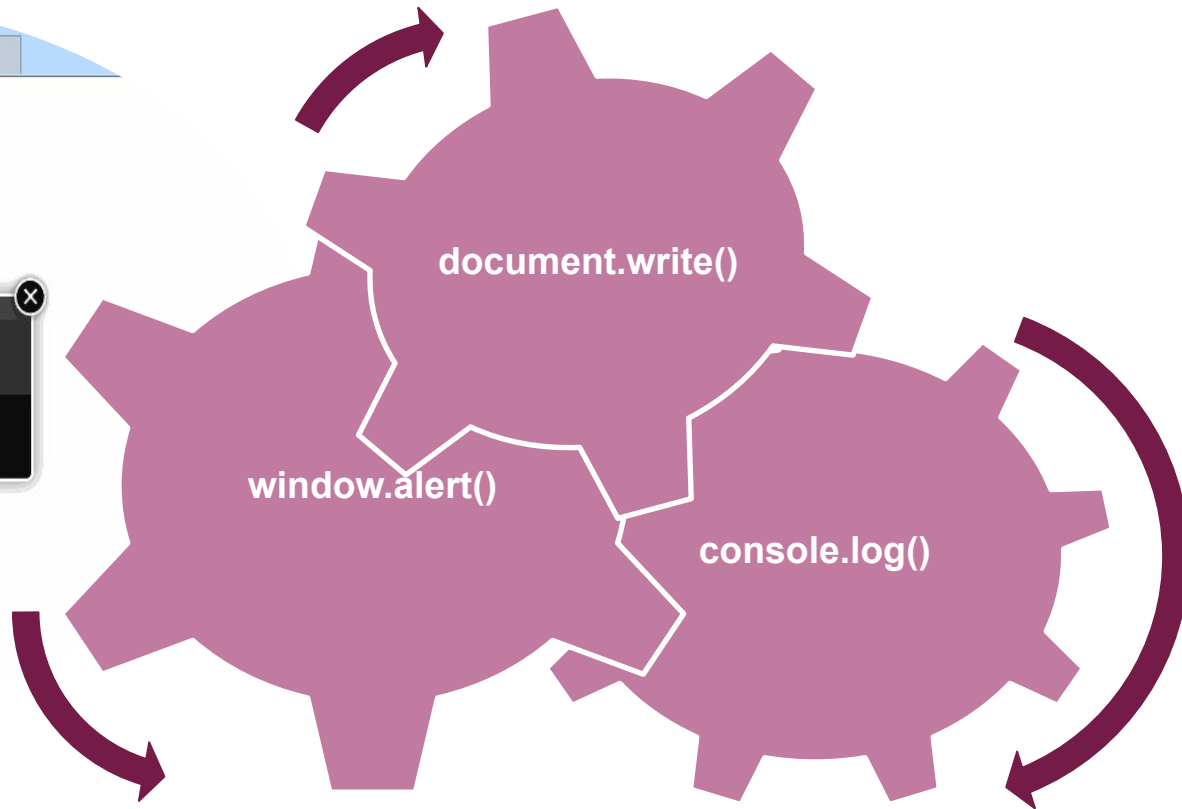
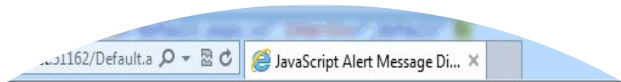
5 Interaction



Output



There are different ways to "display" data in JavaScript



Output



`document.write()`--> Writing into the HTML output

The screenshot shows a web browser window with a dark-themed code editor. The editor is titled 'HTML' and contains the following code:

```
1 <!DOCTYPE html>
2 <html>
3   <body>
4     <script>
5       document.write("Hello World");
6     </script>
7   </body>
8 </html>
```

Below the code editor, the browser's output area displays the text 'Hello World'.

Output



windows.alert()--> Writing into an alert box

```
1 <!DOCTYPE html>
2 <html>
3   <body>
4     <h2>Example of alert box</h2>
5     <script>
6       window.alert("Hello World");
7     </script>
8   </body>
9 </html>
```

clarusway.com says

Hello World

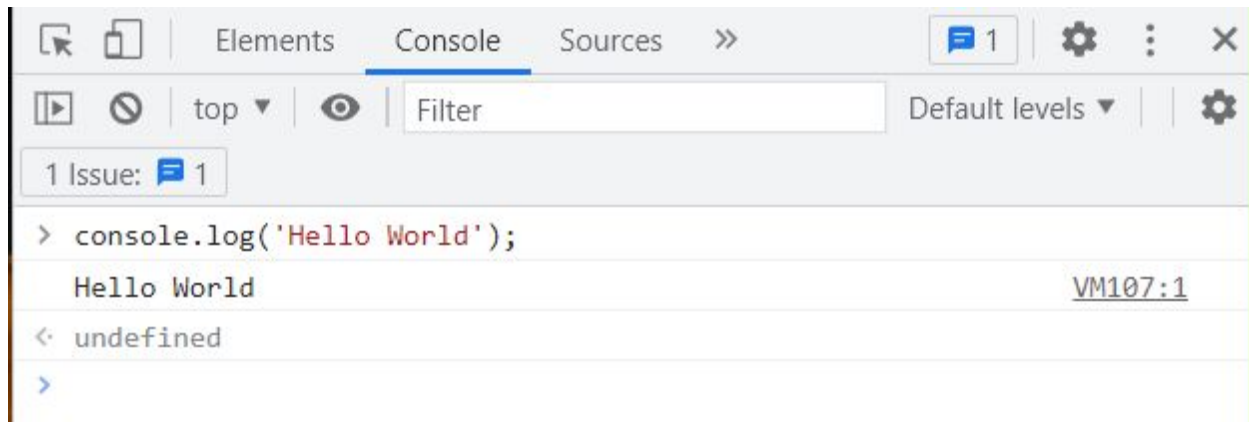
OK

Output



console.log()-->Writing into the browser console

```
1 <!DOCTYPE html>
2 <html>
3   <body>
4     <h2>Example of console log</h2>
5     <script>
6       console.log("Hello world");
7     </script>
8   </body>
9 </html>
```





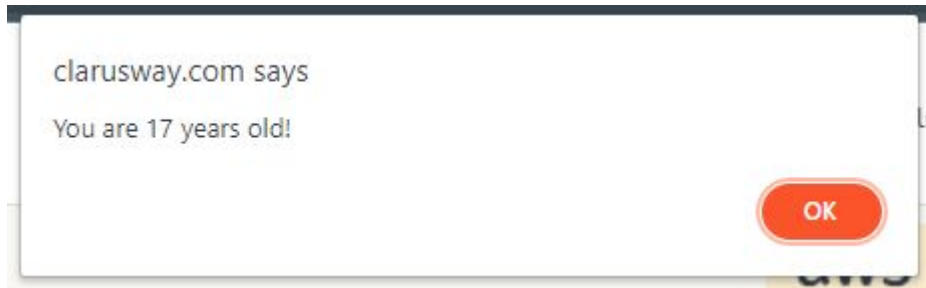
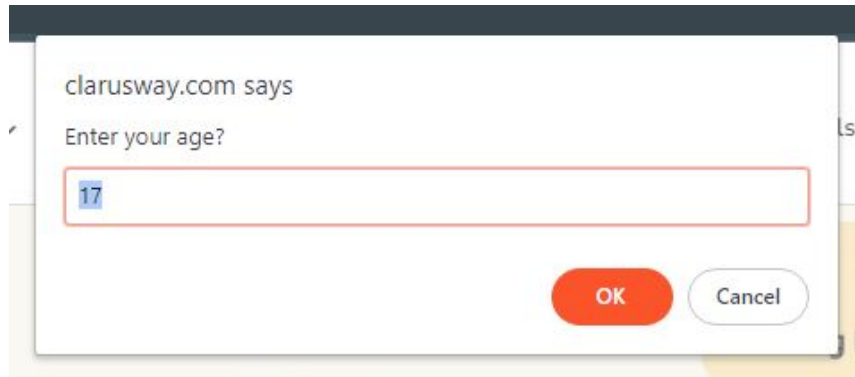
Input



Shows a modal window with a text message, an input field for the visitor, and the buttons OK/Cancel with `window.prompt()`.



```
let age = prompt('Enter your age?', 17);  
alert(`You are ${age} years old!`);
```





Input



Shows a modal window with a question and two buttons: OK and Cancel with `window.confirm()`.



```
let confirmLegal = confirm('Are you older than 17?');  
alert(confirmLegal);
```



6

Comments



Comments

Comments are used to add an explanation, warnings and other notes to the code

Comments are ignored by JavaScript

Comments are also imported for debugging. We can use comments for searching errors

We can add;

- * a single line comments after a double slash //

- * and multi-line comments between /* and */

```
/*How to  
comment in*/  
//JavaScript
```



Comments

JavaScript comments can be used to make the code more readable.

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4   </head>
5   <body>
6     <script>
7       //This is a single-line comment.
8       /*This is
9         a multi-line
10        comment*/
11     </script>
12   </body>
13 </html>
14
```




Let's get our hands dirty!



- Print your name in the console and screen





THANKS!

Any questions?

