



S021: Introduction to JS

Definitions/Concepts	
Javascript	<ul style="list-style-type: none">• Javascript is one of the world's most powerful languages as well as the most popular one.• It helps create interactive websites, wherein you interact with contents on the website• You can create mobile applications• You can even make games using Javascript.• Moreover javascript is the only browser native language.• It has a wide variety of support from collaborators around the world, so new updates, features are updated every once in a while.• JavaScript is the industry standard scripting language. You'll find that the digital giants like Google, Facebook, Youtube, Wikipedia, and Amazon use it. When your Facebook timeline updates on your screen or Google suggests search terms based on the few letters you've typed into your search bar, that's JavaScript doing its job.
Difference between HTML/CSS and JavaScript	<ol style="list-style-type: none">1. JavaScript is an imperative language in which you explicitly spell out each step of how you want something done.2. HTML/CSS is a declarative language in which you merely say what it is that you want to be done.3. HTML is mainly used for providing static web content whereas JavaScript provides a dynamic environment to handle the dynamic events on the web pages.
getElementById	<p>How does JS know, which element of the HTML page, shall be manipulated with ?</p> <ul style="list-style-type: none">• We have used the attribute before in our HTML element. JS uses the same id to take a reference to the element that is to be manipulated with.• This is possible with the <code>getElementById()</code>.• The example below "finds" an HTML element (with id="car"), and changes the element text to "bus"; <pre>document.getElementById("car").innerHTML = "Bus";</pre>



Components of a JS Statement	<ul style="list-style-type: none">• Values• Operators• Expressions• Keywords• Comments.
values	<ul style="list-style-type: none">• Any property that you assign to a variable is a value.• It can be a string, it can be a number, it can be true/false etc.• We learnt about variables while we were discussing SASS, JS just like other languages like python and CSS has the support for variables too. <p style="text-align: center;">Keyword variable = value ;</p> <ul style="list-style-type: none">• JavaScript can handle many types of data, but for now, just think of numbers and strings.• Strings are written inside double or single quotes. Numbers are written without quotes.• If you put a number in quotes, it will be treated as a text string.• For example: <pre>var number=5; var inword="Five";</pre>
undefined	<ul style="list-style-type: none">• There are times when you simply cannot assign a particular value to a variable, and it is calculated at a later time.• A variable declared without a value will have the value undefined.• For example: <pre>var myname;</pre> <ul style="list-style-type: none">• The myname variable here will have an undefined value. Therefore suppose you will display the myname variable on your webpage, it will output "undefined"
NULL	<ul style="list-style-type: none">• There is another value that you can use to assign a variable that currently does not have a value.• The NULL value means that nothing has been assigned to the variable at all, and upon output, it will be empty too.



Activity links and Solutions

[Student Activity 1](#): Various Output Experiments

```
JS
1 var x=5+2+3;
2 console.log(x);
```

Output:

```
Console
10
```

- The value in double quotes is always treated as a string. Now if you had used some other languages that have strict data type rules, you wouldn't have been able to apply the add operation upon them, But this is not the case with JS.
- The compiler here will treat "2+3" as a string, and the unary + operator will consider 5 now as a string value as well so the final output will be the concatenation of both the strings.

```
JS
1 var x = 5+"2+3"
2 console.log(x)
```

Output:

```
Console
"52+3"
```



- Unlike the unary "+", the multiplication operator considers both as numbers. Therefore we have a 10+3=13 as the output.

```
JS
1 var x = 5*"2"+"3";
2 console.log(x);
```

Output:

```
Console
"103"
```

FunFacts

There is a common misbelief that because the browser is named Firefox, the logo must be a fox. Surprisingly, the cute furry creature in the logo is actually a red panda!