

Creating Your Functions in JavaScript

In the previous lesson, we learned how to write JS programs, create variables and use them to update HTML document's content.

Now we shall learn how we can define functions in JS so that we can use them multiple times based on our requirement.

Before we write functions let us first understand what functions are and why are they important. Consider the thank you note scenario we discussed in the previous lesson. What if you were a celebrity and had millions of fans?

Manually entering the name of the person in the program and printing and sending the note would again be a tedious job. Since the entire task is just a steps to be done in a sequence, to be done repetitively, we could just provide a list of all the names as input to the program, and it could do the task of replacing the name, printing the note and sending it to the person over and over again. Functions in programming languages help us in doing this work.

So what is the definition of functions? Functions are one of the building blocks of any programming language and contain a set of commands that perform a specific task or calculates a value, e.g., calculating the sum of the given input nos. Functions come in handy when we have to perform the same task on numerous occasions on different sets of input.

We need to define our function before we can use it to perform any task. This is known as `Function Definition` or `Function Declaration`. Every function definition in JavaScript starts with the `function` keyword followed by:

1. The name of the function.
2. A list of inputs to be provided to the function. These are also called function parameters. The parameters are enclosed in circular brackets, i.e. `()` and separated from each other using commas `(,)`
3. The JavaScript commands that are required to perform the intended task or computation of the function. These commands are enclosed in curly brackets. i.e. `{ }`

Note: `Function parameters` are the names listed in the function definition. `Function arguments` are the real values received by the function when it is executed.

Let's write the code create a JS function that displays our name along with a message.

Step 1: Define the JS function to update our name along with the `Hello World` message. The function will take one parameter `myName` as input. We shall use a variable `elem` to find the element with the id as "hello" and save it using the `document.getElementById` function we learned about in the previous lesson. We shall use a variable `myName` to store our name in it. The next important step is to take the existing HTML content of the element, i.e., "Hello World, I am:" and the variable `myName` and update the HTML content. Save the code in a file with the `.js` extension e.g. `my-javascript.js`.

All inputs to the function are passed in the brackets after the function name i.e. `myFunction`. The code to be executed by the function starts after the opening curly bracket i.e. `{` and ends before the closing curly bracket `}` of the function.

```
function myFunction(myName) {  
    var elem = document.getElementById("hello");  
    elem.innerHTML = elem.innerHTML + myName;  
}
```

Step 2: Now let us now use the JS function we just created to update an HTML document. We have included the js code `my-javascript.js` using the `<script></script>`.

To see our JS function in action and view the output, we use a button in our HTML code. We set the `onClick` attribute for the button as our function name i.e. `myFunction` and provide the input to the function as 'Bolt IoT'. The function linked to the `onClick` attribute of a button is executed every time the button is clicked. Our function will update our message in the `<p>` element with the id as `hello`. The HTML code will look as shown below.

```
<!DOCTYPE html>
<html>
<head>
<title>JavaScript Functions</title>
<script type="text/javascript" src="my-javascript.js"></script>
</head>
<body>
  <p id="para1">Click on the below to show my name.</p>
  <button onclick="myFunction('Bolt IoT');">SHOW MY NAME</button>
  <p id="hello">Hello World, I am:</p>
</body>
</html>
```

Open the HTML document in your browser and click on the button to view the output. The output should be as shown below.





You can replace the variable value provided in the `onClick` attribute with your name, save the document and re-open the file in your browser to view your name in the browser.

In this lesson, we learned how to create and use functions in JS.

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Q. Hi Sir, this is a small query in AJAX code.

```
<script>
function loadUserData() {
var xhttp = new XMLHttpRequest();
xhttp.onreadystatechange = function() {
if (this.readyState == 4 && this.status == 200) {
user_data.innerHTML = this.responseText;
}
};
var user_number=user_num.value;
xhttp.open("GET", "https://reqres.in/api/users/"+user_number, true);
xhttp.send();
}
</script>
```

Can you explain the code written in script in detail

The above code, define a function which uses AJA to load user data into the web site.

This function can be attached to a button and used as a user reloadable data.

The function first creates an XMLHttpRequest object, which helps javascript to make ajax requests.

It then assigns a function to the object, which will be called, when the object receives a response from the ajax query.
[see more \(\)](#)

Q. Should i write the arithmetic operations inside the <script> tag ?

Yes, you will need to write the variables inside the <script> tag in order for it to be executed.

Q. What is the purpose of <script> tag?

The <script> tag is to let the browser know that the text inside the tag is a JS code.

Q. What is innerHTML attribute in Javascript?

Refer the below example :

```
<!DOCTYPE html>

<html>
```

[see more \(\)](#)

Q. is there any return tag in js ,if yes then why is it not use in the function code of js

You can return some value from the javascript function but you have to handle that return type properly.
Refer this code

```
div id="para1">
```

[see more \(\)](#)

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