

MIND HUB.

Functions

An aerial night photograph of a multi-lane highway in a city, showing light trails from vehicles. The image is overlaid with a blue tint and various graphic elements: a large, semi-transparent blue 'U' on the left; a red 'L' and 'J' at the top center; a dashed line at the top right; a solid red line on the right side; and a white bracket-like shape at the bottom center. A checkered pattern is visible in the bottom left corner.

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Functions the core of your code!

Functions group script code; they control structures, operations, method calls, etc. in the same way as a normal script. structures, operations, method calls, etc. in the same way as a normal script.

These functions can be called when necessary and the code they contain will be executed.

This makes it very easy to reuse the code without having to repeat it in your script. DRY!

Function declaration:

```
function nameOfFunction(parameters) {  
    // function code should be written here  
}
```

Function call:

```
nameOfFunction(arguments);
```

Example

```
let num1 = 10;  
let num2 = 5  
  
function sum(param1, param2){  
    let sum = param1 + param2  
    return sum  
}  
  
sum(num1, num2)  
sum(3,8)
```

What would happen if we pass two 'strings' to the function?

parameters/arguments

we declare two arrays like this...

```
const animals = ["Dog", "Cat", "Pig", "Bird"]  
const developers = ["Jack", "Alex", "Mary"]
```

a function **without** parameters...

```
function showAnimals(){  
  for( let i = 0; i < animals.length; i = i + 1 ){  
    console.log( animals[i])  
  }  
}
```

and a function **with** parameters:

```
function showAnimalsInArray(array){  
  for( let i = 0; i < array.length; i = i + 1 ){  
    console.log( array[i])  
  }  
}
```

Now, we call the functions...

```
showAnimals()  
showAnimalsInArray(animals)  
showAnimalsInArray(developers)  
showAnimalsInArray([1,4,8])  
showAnimalsInArray(["Paul", "Mike"])
```

Questions:

- What results do we expect for each function call?
- What is the main difference between the two functions?
- Which is the most useful?
- What about the last two statements?

Parameters are variables listed as part of the function definition.

Arguments are values passed to the function when it is invoked.

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