User-Defined Functions

Function declarations:

In most programming and scripting languages, there are some built-in functions that are kept in a library. The really interesting part is that we can write our own functions, (also called 'User Defined Functions' or 'UDF') to perform specialized tasks.

Before using a function, we must first define it somewhere in the scope from which we wish to call it. Defining your own function in JavaScript is a simple task.

A classical function declaration begins with the keyword `function`, followed by:

- The name of the newly created function
- A list of parameters the function accepts enclosed in parentheses and separated by commas
- A block of JavaScript code enclosed in curly braces, **{ }**, to be executed when the function is called
- The opening curly brace **{** indicates the beginning of the function code and the closing curly brace **}** marks the termination of a function

```
function functionName(param1,param2..paramN){
        // block of JavaScript code
}
```

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Function expressions: Making functions while using a variable as a reference

We can also define functions without placing the name between the function keyword and the argument list. This structure is great if you want to create a reference to it using a variable.

/!\ Remember, substract is still a variable, in this case it just contains a function.

```
var subtract = function( a, b ) {
    return a - b;
}
```

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To sum it up, we can declare a function in two ways. Let's say we want to define a function that calculates the cube of the argument passed to it. You can do it in one of two ways:

PS: In arithmetic and algebra, the cube of a number n is its third power, the result of the number multiplied by itself twice: n3 = n × n × n.

The function "cube" takes one argument, called n. There is only one JavaScript statement in the function body which instructs to return the argument (n) of the function after multiplying it by itself twice. Here, the return statement returns the calculated value.

```
// Example 1: (Classic Function Declaration)
function cube(n){
return n*n*n;
}

// Example 2: (Function Expression)
var cube = function(n){
return n*n*n;
}
```

‹ Previous next ›