JavaScript typeof

In JavaScript there are 5 different data types that can contain values:

* string
* number
* boolean
* object
* function

There are 6 types of objects:

* Object
* Date
* Array
* String
* Number
* Boolean

And 2 data types that cannot contain values:

* null
* undefined

The typeof Operator

You can use the typeof operator to find the data type of a JavaScript variable.

Example

typeof "John"                 // Returns "string"  
typeof 3.14                   // Returns "number"  
typeof NaN                    // Returns "number"  
typeof false                  // Returns "boolean"  
typeof [1,2,3,4]              // Returns "object"  
typeof {name:'John', age:34}  // Returns "object"  
typeof new Date()             // Returns "object"  
typeof function () {}         // Returns "function"  
typeof myCar                  // Returns "undefined" \*  
typeof null                   // Returns "object"

Please observe:

* The data type of NaN is number
* The data type of an array is object
* The data type of a date is object
* The data type of null is object
* The data type of an undefined variable is **undefined** \*
* The data type of a variable that has not been assigned a value is also **undefined** \*

You cannot use typeof to determine if a JavaScript object is an array (or a date).

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Primitive Data

A primitive data value is a single simple data value with no additional properties and methods.

The typeof operator can return one of these primitive types:

* string
* number
* boolean
* undefined

Example

typeof "John"              // Returns "string"  
typeof 3.14                // Returns "number"  
typeof true                // Returns "boolean"  
typeof false               // Returns "boolean"  
typeof x                   // Returns "undefined" (if x has no value)

Complex Data

The typeof operator can return one of two complex types:

* function
* object

The typeof operator returns "object" for objects, arrays, and null.

The typeof operator does not return "object" for functions.

Example

typeof {name:'John', age:34} // Returns "object"  
typeof [1,2,3,4]             // Returns "object" (not "array", see note below)  
typeof null                  // Returns "object"  
typeof function myFunc(){}   // Returns "function"

The typeof operator returns "object" for arrays because in JavaScript arrays are objects.