

Objects and its internal representation in Javascript



Objects are the Building blocks of the Javascript. It is a very important data type in javascript as most of the other data types are formed around objects. Objects are nothing but a key-value pair in curly braces. This concept

is existing in other programming languages like Dictionary in python, but the concept of the key-value pair is only taken to the dictionary in python. But in Javascript, it's everywhere. The datatype of arrays, null, and functions are also objects. Javascript functions are called first-class objects because of functions having properties and methods just like any other objects in javascript.

Example of Objects be like :

```
var emptyObject = {}; // Empty Object

var person = {"name": "Clark", "surname": "Kent", "age":
"36"};

// For better reading
var car = {
  "modal": "BMW X3",
  "color": "white",
  "doors": 5
}
```

Here “emptyObject” is an empty object where it has nothing inside the curly braces. Where the person and car objects having data in the form of “ KEY : VALUE ” pairs inside the curly braces. Usually, the key (name) will be a string. But the value can be of any datatype like strings, numbers, booleans, arrays, functions, and other objects.

Here in the car object, the “model” is the key, and “BMW X3” is the value following with another key “color”.



```
var person = {  
  name: "John",  
  age: "22"  
}
```

When we are considering array, it is also a key-value pair data type. There is only a slight difference between objects and array. In array, the keys always will be numbers or integers, and the keys are not printed or visible for us. An

array can store a list of items that may have different data types with a key-value pair of sequential numbers to value. Only values are necessary in this case or we don't consider the keys but just values. The irony is we can even store objects and functions as an item in an array.

```
var person = new Object();  
person.name = "John";  
person.age = "22";
```

Example of Array be like :

```
var emptyArray = []; // Empty Array
```

```
var person = ["Clark", "Kent", 36]; // Array of person
```

```
var car = ["BMW X3", "white", 5]; // Array of car
```

Here, the keys will be sequential numbers starting from '0' and they are called as index numbers.

Objects are called by the variable name and key :

```
Car.model / car["model"]
```

Arrays are called by the variable and index number :

```
Car[0] , Car[1] and goes on...
```

In the case of **functions**, the values are passed to it and the function returns some value if needed. Functions are first-class objects because they can have properties and methods just like any other object.

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