Object

INTRODUCTION

Introduction

In JavaScript, along with primitives we have objects. Objects allow you to map keys to values. For example, the key `'name'` could map to `"Tim"`. Or the key `'isInstructor'` could map to the boolean `true`. These are example of key value mappings. When you want to know the name property of the object, you look it up and get the value back, which is `"Tim"` in this case. Here is an example of declaring an object:

```
var firstObj = {
    firstName: "Tim",
    lastName: "Garcia",
    isInstructor: true
};
```

Accesing Object

dot notation:

```
firstObj.firstName;       // returns "Tim"
firstObj.lastName;        // returns "Garcia"
firstObj.isInstructor;    // returns true
firstObj.keyDoesntExist;  // returns undefined
```

bracket notation:

```
firstObj["firstName"];       // returns "Tim"
firstObj["lastName"];        // returns "Garcia"
firstObj["isInstructor"];    // returns true
firstObj["keyDoesntExist"];  // returns undefined
```

KEY ALWAYS STRING IN JAVASCRIPT

It is important to note that the type of a key in JavaScript is always a string. Let's say we create the following object of some employee id to the employee name:

```
var idToName = {
    754: "Tim",
    843: "Matt",
    921: "Janey",
    192: "Elie"
};
```

```
idToName.754;  // causes an error
```

```
idToName["754"];  // returns "Tim"
```

Adding to Object

To add properties or functions (which are sometimes called methods) to our objects, we can use the `.` or `[]` operator (as before, the dot notation is preferred, but not always possible).

```
var obj = {
    name: "Jon Snow",
    watchMember: true
};

obj.gameOfThrones = "awesome";
obj;
/*
{
    name: "Jon Snow",
    watchMember: true,
    gameOfThrones: "awesome"
}
*/
```

REMOVING FROM OBJECT

We can remove a key from an object by using the `delete` keyword. Here's an example:

```
var obj = {
    name: "Elie",
    job: "Instructor"
};

delete obj.job; // returns true

obj;
/*
{
    name: "Elie"
}
*/
```

LATIHAN

1. Write the command to add the language "Go" to the end of the
2. Change the difficulty to the value of `7`.
3. Using the `delete` keyword, write the command to remove the
4. Write the command to add a new key called `isFun` and a valu
5. Using a loop, iterate through the languages array and console.
6. Using a loop, console.log all of the keys in the programming ob
7. Using a loop, console.log all of the values in the programming

```
var programming = {
    languages: ["JavaScript", "Python", "Ruby"],
    isChallenging: true,
    isRewarding: true,
    difficulty: 8,
    jokes:
"http://stackoverflow.com/questions/234075/what-is-your-best-programmer-joke"
};
```

ITERATION IN OBJECK

Looping over objects

One of the most important ideas in programming is the idea of iteration, or looping. Let's say we want to print out all of the values in an object. One way we can do this is by printing the values individually, one per line.

```
var obj = {
    firstName: "Elie",
    lastName: "Schoppik",
    favoriteColor: "purple",
    job: "instructor",
    isDeveloper: true
};

console.log(obj.firstName);
console.log(obj.lastName);
console.log(obj.favoriteColor);
console.log(obj.job);
console.log(obj.developer);
```

Although this will work, there are cases where we don't know the keys that an object has. In that case, looping is a much better idea. Let's take a look at how we would loop over the keys in an object.

To iterate over objects, we use a `for in` loop.

In the code example, `singleKey` is a variable that will be assigned to each key in the `instructor` object. To access the key's value, we must use the bracket notation.

```
var instructor = {
    name: "Matt",
    mathWizard: true,
    dogOwner: true
};

for(var singleKey in instructor){
    console.log(instructor[singleKey]);
}

// the loop will log:
// "Matt"
// true
// true
```

LATIHAN

// tambahkan hobby memancing di array hobby

//ubah nama terakhir menjadi "Fal Aham"

// menggunakan keyword delete hapus asal dari objek badai

// tambahkan key isMale dan set value menjadi true

//tambahkan key kelurahan dan set menjadi "nongsa" pada badai.alamat objek

//Using a loop, iterate through the ""hobby" array and console.log all of the hobby .

// Using a loop, console.log all of the keys in the programming object.

```
var badai ={
 namaPertama : "Winata",
 namaTerakhir : "Arafat",
 asal : "Surabaya",
 umur: 56,
 hobby : ["membaca", "coding", "tidur"],
 alamat: {
   jalan : "perumahaan citra mas indah",
   nomor : 45,
   rtRW : [11, "5B"]
 }
}
```