Class Notes – Objects and Classes

This lecture follows the following links:

https://www.w3schools.com/js/js_objects.asp

https://www.w3schools.com/js/js_classes.asp

Practice:

1- Create a new class called User. Do not add a constructor method yet.

Solution

A class declaration is short and simple.

```
class User {

}
```

The class declaration starts with the keyword class. Then the name of the class, which is capitalized, is added, followed by a set of open and closed curly braces. The constructor method, and every other method available on the class will go inside those curly braces.

2- Add a constructor method to the User class. It should have the following properties.

email, set to the value of the email parameter.
username, set to the value of the username parameter.
birthday, set to the value of the birthday parameter
The values for email, username, and birthday will be passed in when the object is created so don't forget to add these three parameters in the constructor method.

Solution

In this second code challenge, Practice Writing a Constructor Method, you were asked to continue building out the User class by adding a constructor method inside. You will also given a number of properties to include in the constructor method. Each of the properties was supposed to be set to the corresponding parameter.

Remember, constructor methods must be started with the keyword `constructor`, then a set of parentheses and then a set of open and closed curly braces. Any values passed to the constructor must be added as parameters. To indicate that a property is available on members of the class, we use the keyword `this`.

```
class User {
  constructor(email, username, birthday) {
    this.email = email;
    this.username = username;
    this.birthday = birthday;
  }
}
```

3- Create a variable called user1. Set this variable to a instance of the User class. Pass in the following arguments for email, username, and birthday respectively. Suggestion: Try copying and pasting the values instead of retyping them.

"JavaScriptStudent@mail.com"
"JSUser1"
"1/08/1991"

Solution

In this code challenge, your job was to create a new instance of the User class and store it inside a variable called `user1`.

The variable could be declared with any of the variable declaration keywords `var`, `const`, or `let`. We'll use `const`, but the code is valid regardless of your choice.

New instances of classes are created with the keyword `new` followed by the name of the class, and then a set of parentheses. Arguments to the constructor method are passed inside the parentheses in the same order they are received, just like any other function. Creating an instance of a class happens *outside* the class.

```
const user1 = new User("JavaScriptStudent@mail.com", "JSUser1", "1/08/1991");
```

4- ***Task 1***: Add a method to the User class called changeUsername()
This method should receive one parameter username, a string representing a new username for the user1 object.

This method should not return anything.

Inside the method, update value of username property to the value of the username parameter.

Task 2: And also, Call the changeUsername() method on the user1 object. The new username should be "Student2"

Solution:

Solution Task 1

This was a two task code challenge. In the first task you were asked to add a method to the User class called `changeUsername()`. This method should receive one parameter, representing the new username. It shouldn't return anything. The object of the method is to change the value of the username property.

Solution Task 2

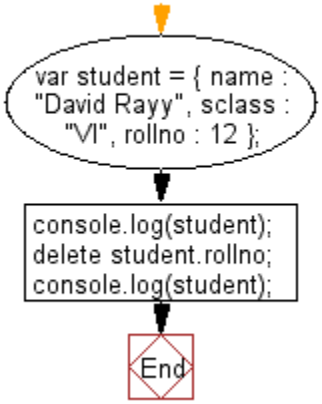
In the second task for this final code challenge, you goal was to call this method on the `user` object and change the username to "TreehouseStudent2". You could have used either dot or bracket notation for this, and I'll show the solution for both.
Using dot notation:

```
class User {
    constructor(email, username, birthday) {
        this.email = email;
        this.username = username;
        this.birthday = birthday;
    }

  changeUsername(username) {
        this.username = username;
    }
}

var user1 = new User('JavaScriptStudent@mail.com', 'JSUser1',
'1/08/1991');

user1.changeUsername("Student2");
```

Exercises:

16. Write a JavaScript program to delete the rollno property from the following object. Also print the object before or after deleting the property.

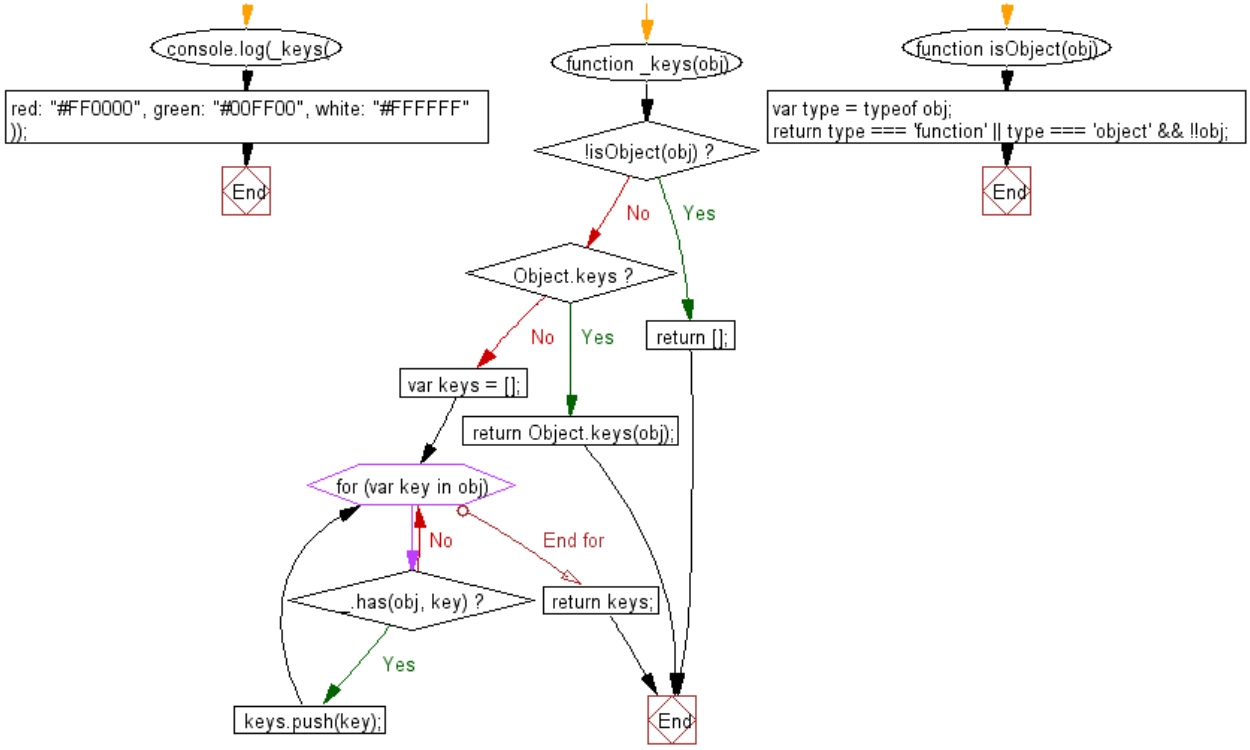
Sample object:
var student = {
name : "David Rayy",
sclass : "VI",
rollno : 12 };



17. Write a JavaScript program to list the properties of a JavaScript object.

Sample object:

var student = {
name : "David Rayy",
sclass : "VI",
rollno : 12 };
Sample Output: name,sclass,rollno



18. Write a JavaScript program to display the reading status (i.e. display book name, author name and reading status) of the following books.

Sample Output:

Already read 'Bill Gates' by The Road Ahead.

Already read 'Steve Jobs' by Walter Isaacson.

You still need to read 'Mockingjay: Final Book of The Hunger Games' by Suzanne Collins.