**Objects and its internal representation in Java script**

Objects can be used to store real-world like bike, car, mobile, chair, table etc… Objects are used to store values like Strings, Arrays and user-defined data. They are not like primitive datatypes. In primitive datatypes there are less number of inbuilt methods(functions) available to manipulate the data. For objects we can create instance fields and instance methods.

Instance fields are used to describe the traits, characteristics, properties of an Instance field(variables). For example a mobile phone could be an object and it might have characteristics like color, model, sim type, brand, price etc.. are called instance fields.

Instance methods describe the behaviour of an object. For example a mobile phone might have varying features, templates and how it works and behaves is called Instance methods.

In JavaScript objects can be created in different ways:

1. Using key-value pair like

Const person = {

Name: ‘John Doe’,

Age: 30,

Profession: ‘Software developer’

};

1. Using new keyword:

Const person = new Object();

Now to add properties to this object

Person.firstName = ‘Brenden’;

Person.secondName = ‘Emily’;

As you can see the above code to create a new object and assigning a value is cumbersome, incase we have to store 100 persons name we manually add properties to the objects.

Here’s a better way to do, first we create user-defined function and then use ‘new’ keyword to get objects.

Function person(fName, lName){

this.firstName = fName;

this.secondName = lName;

}

Now can get the value in a single line like:

Const person1 = new person(‘Brended’, ‘mark’);

Const person2 = new person(‘Emily’, ‘riot’);

Memory management

Objects in JavaScript are dynamically allocated in memory, and their memory is managed by the garbage collector. The garbage collector identifies and frees up memory that is no longer in use, helping prevent memory leaks. Efficient memory management is crucial for the performance of JavaScript applications, especially those running in resource-constrained environments such as browsers. With the internal representation of objects, including property descriptors, prototype chains and memory management , developers can write more efficient and maintainable code.