

Lesson 03 Demo 06

Declaring and Initializing a HashMap

Objective: To demonstrate HashMap operations in JavaScript by declaring, initializing, and using key-value pairs to store and retrieve data efficiently for dynamic data access

Tools required: Visual Studio Code and Node.js

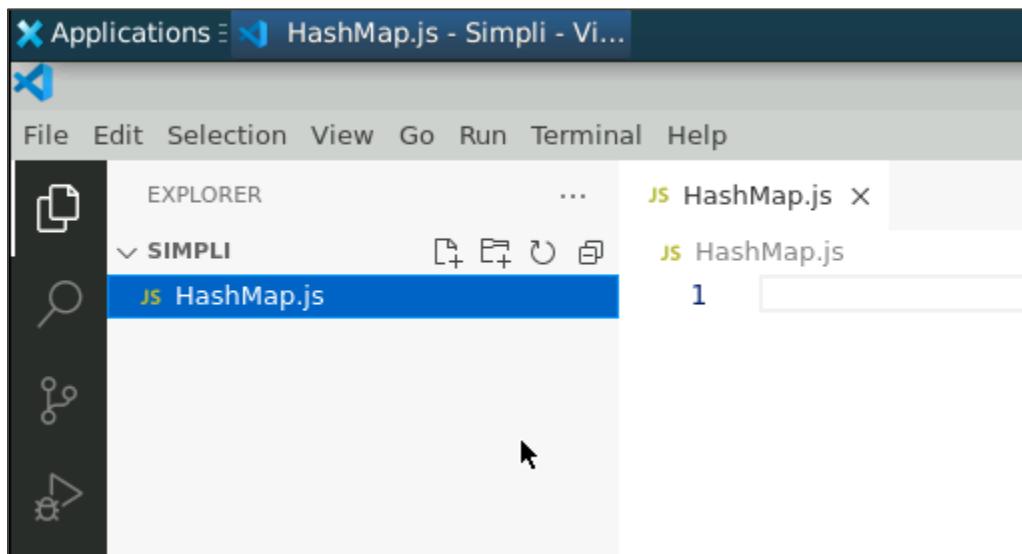
Prerequisites: A basic understanding of data structures and JavaScript

Steps to be followed:

1. Create a JavaScript file and execute it

Step 1: Create a JavaScript file and execute it

1.1 Open the Visual Studio Code editor and create a JavaScript file named **HashMap.js**



1.2 Add the following code to the file:

```
// Creating a HashMap
let hashMap = new Map();

// Initializing the HashMap with key-value pairs
hashMap.set('key1', 'value1');
hashMap.set('key2', 'value2');
hashMap.set('key3', 'value3');

// Displaying the values in the HashMap
for (let [key, value] of hashMap) {
    console.log(`Key: ${key}, Value: ${value}`);
}

// Accessing a specific value by key
console.log('Value of key2:', hashMap.get('key2'));

// Checking if a key exists in the HashMap
console.log('HashMap has key1:', hashMap.has('key1'));
```

The screenshot shows a code editor window with a single file named 'HashMap.js'. The file contains the provided JavaScript code for creating a Map object and performing various operations on it. The code is color-coded for syntax highlighting, and line numbers are visible on the left side of the editor.

```
JS HashMap.js ×
JS HashMap.js > ...
1 // Creating a HashMap
2 let hashMap = new Map();
3
4 // Initializing the HashMap with key-value pairs
5 hashMap.set('key1', 'value1');
6 hashMap.set('key2', 'value2');
7 hashMap.set('key3', 'value3'); I
8
9 // Displaying the values in the HashMap
10 for (let [key, value] of hashMap) {
11     console.log(`Key: ${key}, Value: ${value}`);
12 }
13
14 // Accessing a specific value by key
15 console.log('Value of key2:', hashMap.get('key2'));
16
17 // Checking if a key exists in the HashMap
18 console.log('HashMap has key1:', hashMap.has('key1'));
```

1.3 Press **Ctrl + S** to save the file and execute it in the **TERMINAL** using the commands given below:

```
ls  
node HashMap.js
```

```
9 // Displaying the values in the HashMap  
10 for (let [key, value] of hashMap) {  
11   console.log(`Key: ${key}, Value: ${value}`);  
  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL  
  
priyanshurajsim@ip-172-31-39-132:~/Downloads/Simpli$ ls  
HashMap.js  
priyanshurajsim@ip-172-31-39-132:~/Downloads/Simpli$ node HashMap.js  
Key: key1, Value: value1  
Key: key2, Value: value2  
Key: key3, Value: value3  
Value of key2: value2  
HashMap has key1: true  
priyanshurajsim@ip-172-31-39-132:~/Downloads/Simpli$ █
```

By following these steps, you have effectively learned to create and manipulate a `HashMap` in JavaScript to store and retrieve data efficiently for dynamic data access, improving your ability to efficiently manage key-value pair data structures.