Lesson 03 Demo 07

Working with a HashMap

Objective: To demonstrate the HashMap functionality in JavaScript by building a key-value store, performing dynamic updates through add and delete operations, and managing map data using clear and display methods for efficient data handling

Tools required: Visual Studio Code and Node.js

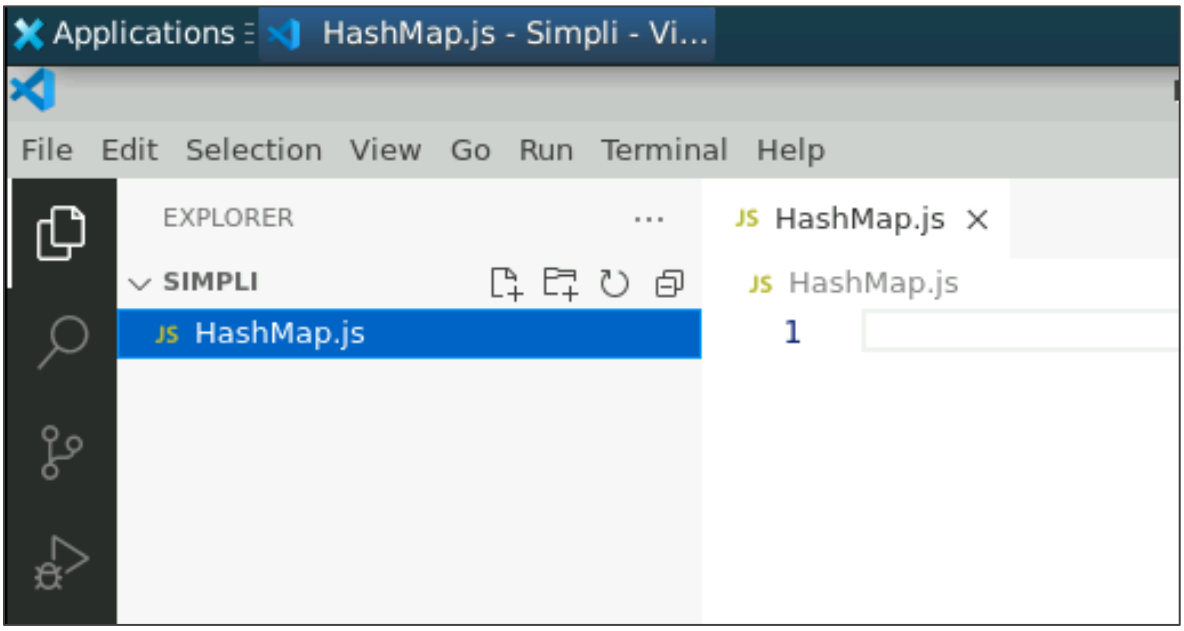
Prerequisites: A basic understanding of data structures and JavaScript

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();

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

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

// Removing a key from the HashMap
hashMap.delete('key2');
console.log('HashMap after deleting key2:');

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

// Clearing all elements from the HashMap
hashMap.clear();
console.log('HashMap after clearing all elements:');

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

JS HashMap.js > ...

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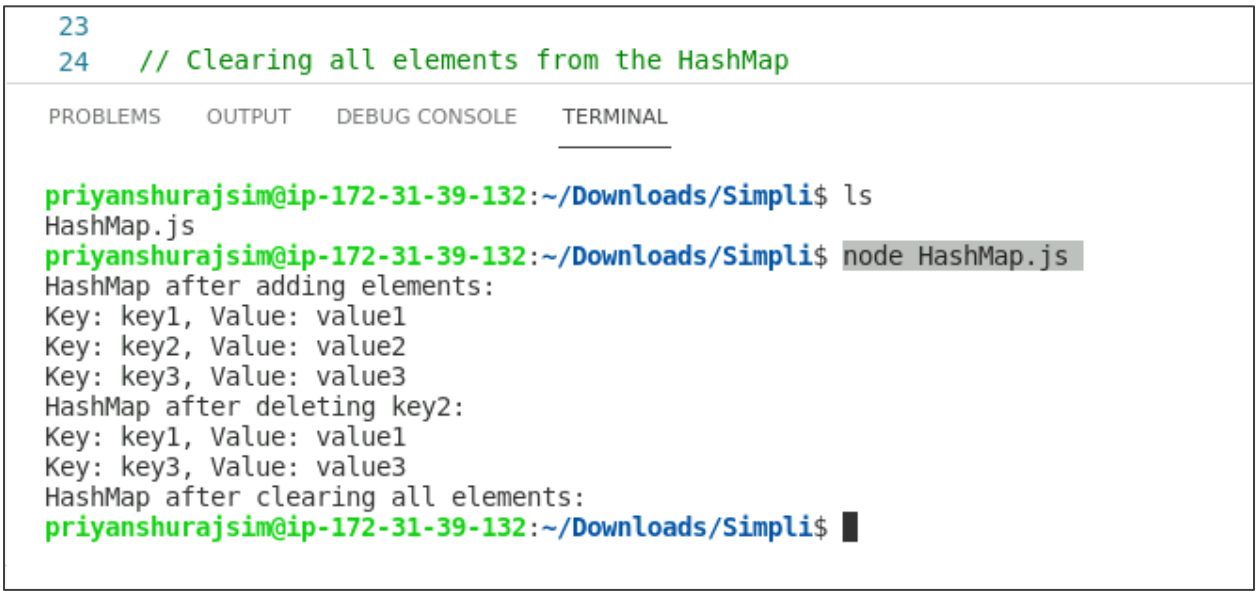
// Displaying the values in the HashMap after clearing
for (let [key, value] of hashMap) {
    console.log(`Key: ${key}, Value: ${value}`);
}
```

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

ls

node HashMap.js



By following these steps, you have implemented HashMap operations in JavaScript, including adding, deleting, clearing, and iterating elements. This example demonstrates declaring, initializing, accessing values, and checking key existence for efficient data handling.