Lesson 02 Demo 02

Working with Logical Operators

Objective: To introduce logical operators in JavaScript and demonstrate their usage in making decisions based on multiple conditions

Tools Required: Visual Studio Code and Node.js

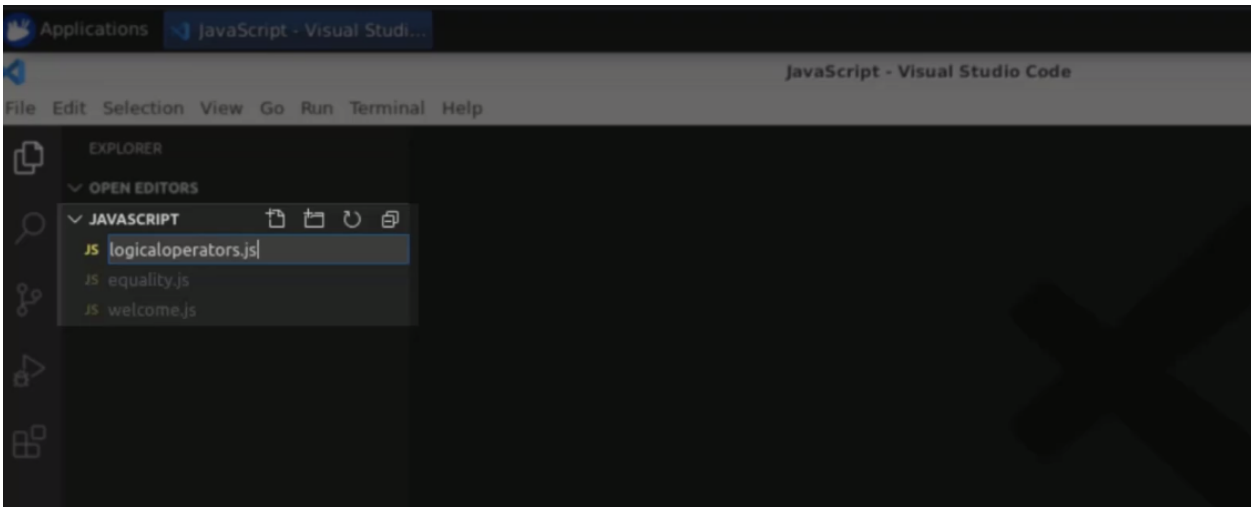
Prerequisites: None

Steps to be followed:

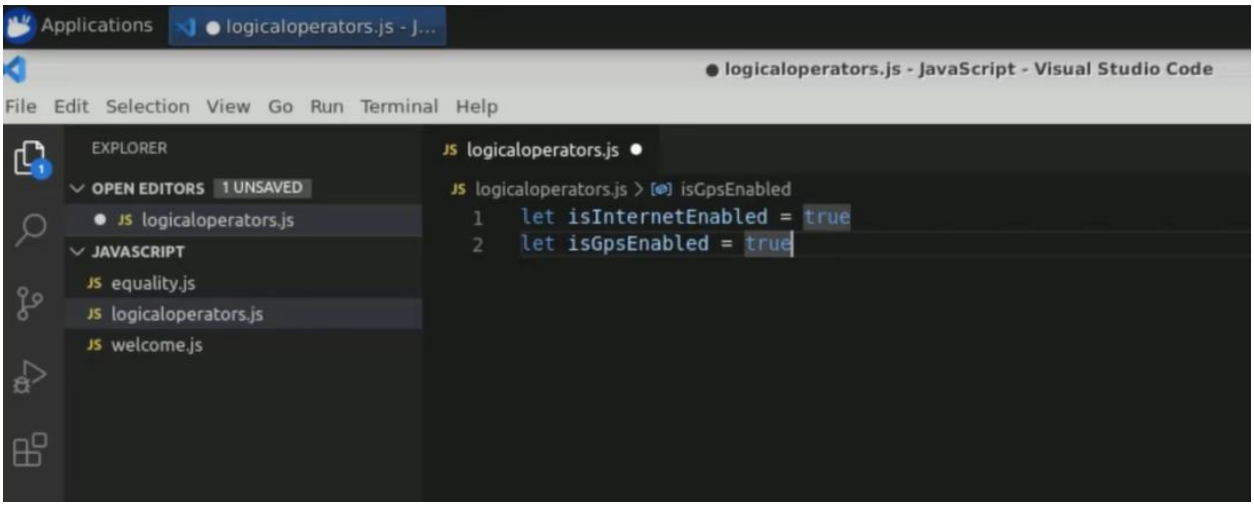
1. Create a JavaScript file
2. Implement logical AND operator
3. Implement logical OR operator
4. Implement logical NOT operator

Step 1: Create a JavaScript file

1.1 Open Visual Studio Code and create a new file named **logicaloperators.js**

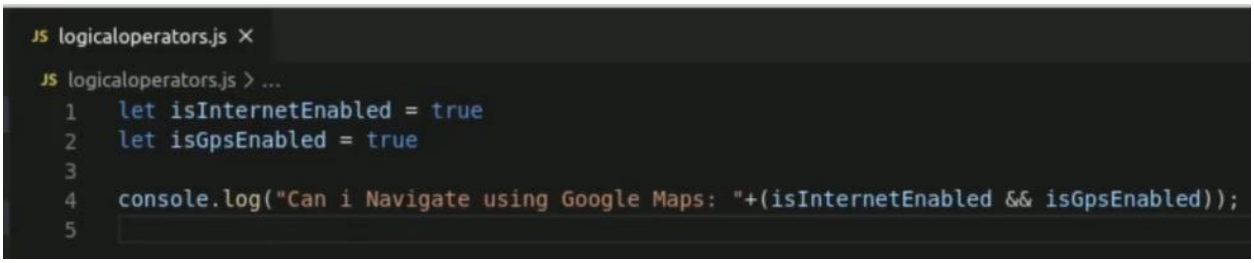


1.2 In the **logicaloperators.js** file, create Boolean variables **isInternetEnabled** and **isGPSEnabled** and assign the value **true** to both variables



Step 2: Implement logical AND operator

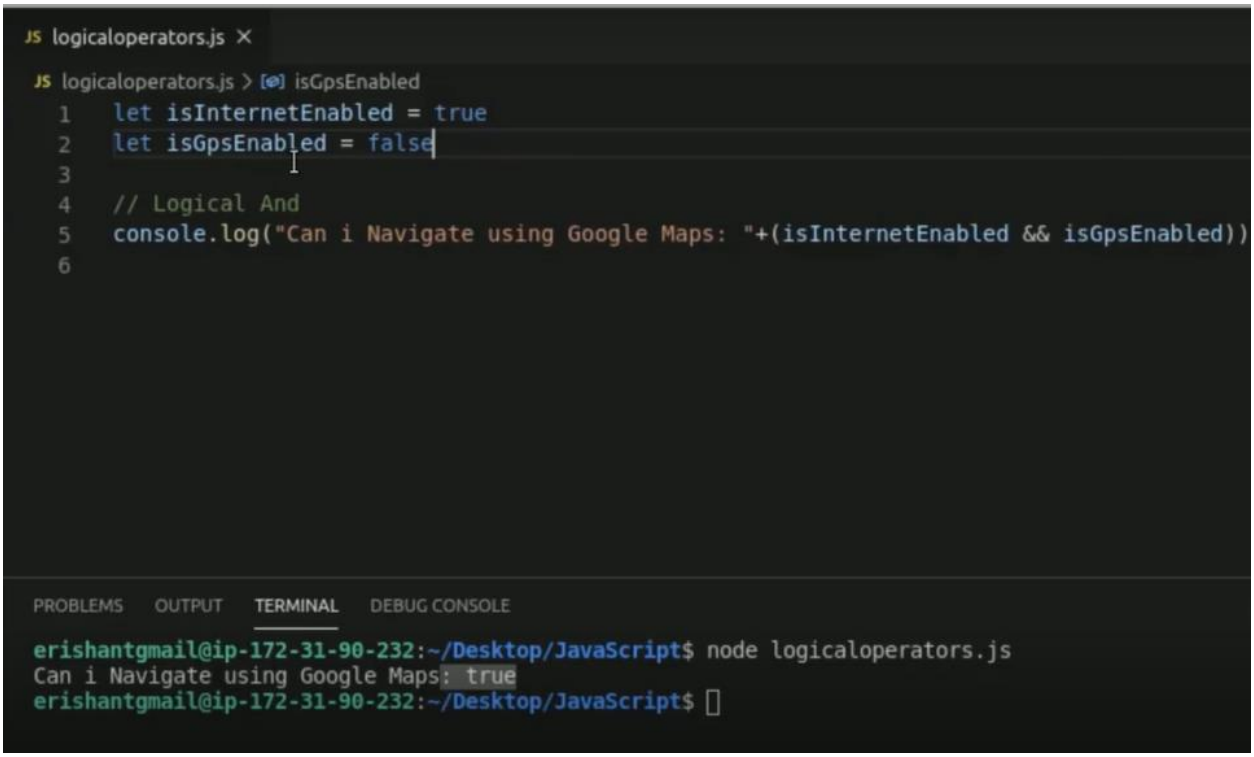
2.1 Use the **console.log()** function to write a message, such as **Can I Navigate using Google Maps**: followed by the logical AND operator (**&&**) between **isInternetEnabled** and **isGPSEnabled**



This ensures that both conditions must be true for the output to be true.

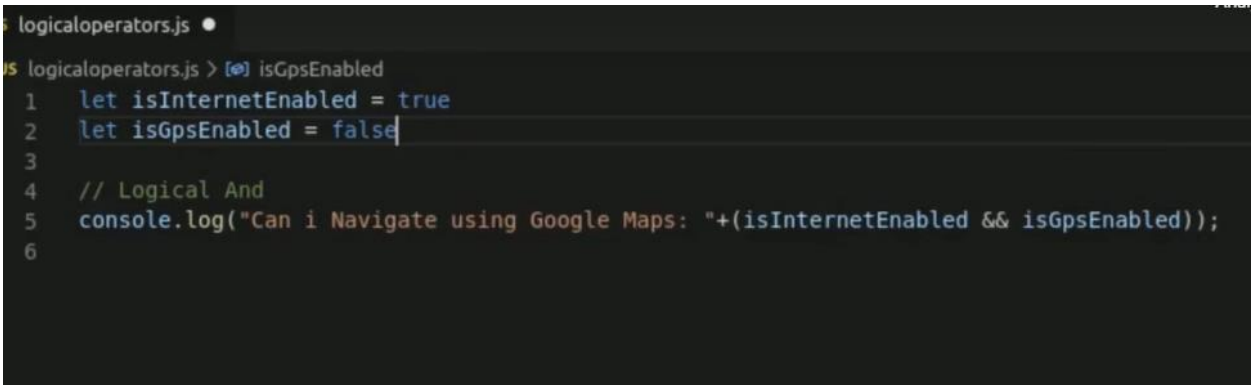
2.2 Run the JavaScript program using Node.js:

node logicaloperators.js

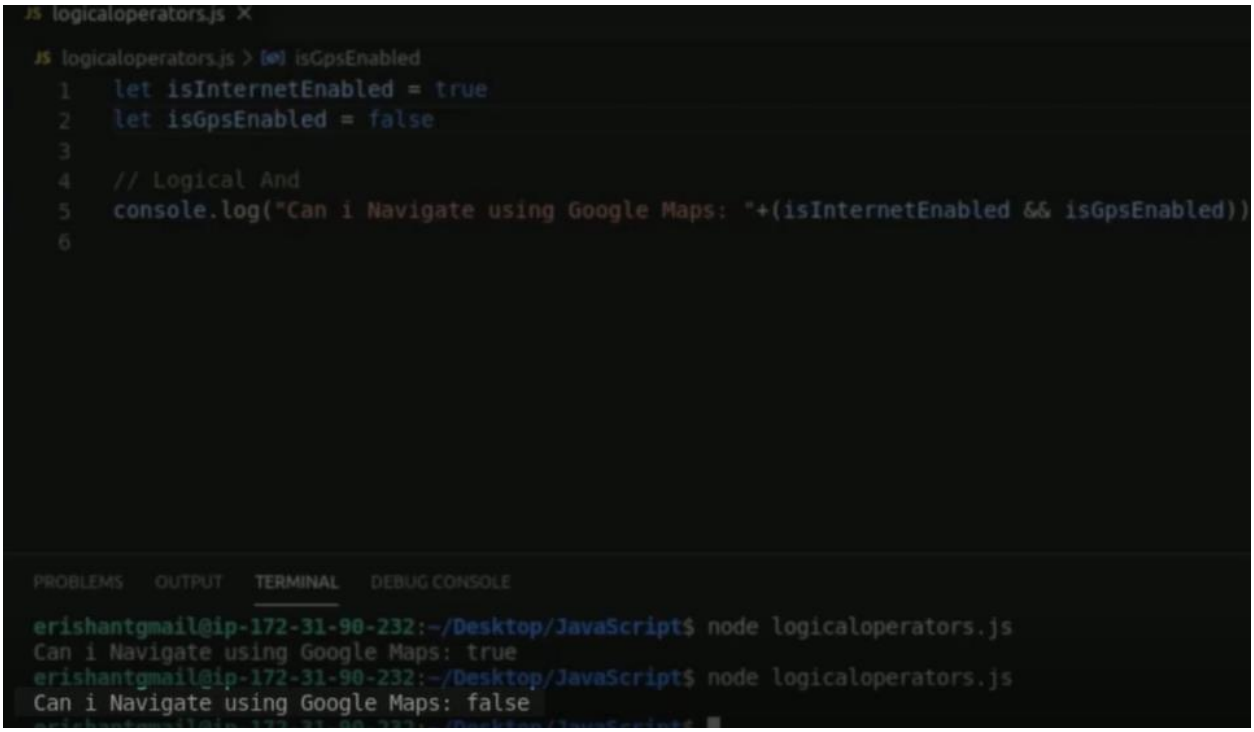


Observe the output on the console. If **isInternetEnabled** and **isGPSEnabled** are true, it will print **true**. Otherwise, it will print **false.**

2.3 Change the value of either **isInternetEnabled** or **isGPSEnabled** to **false**



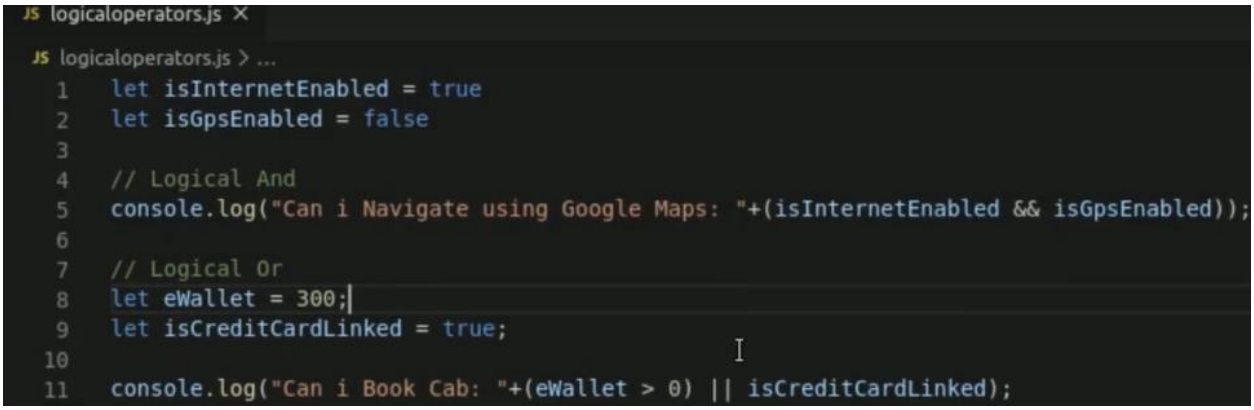
2.4 Run the program again and observe the output



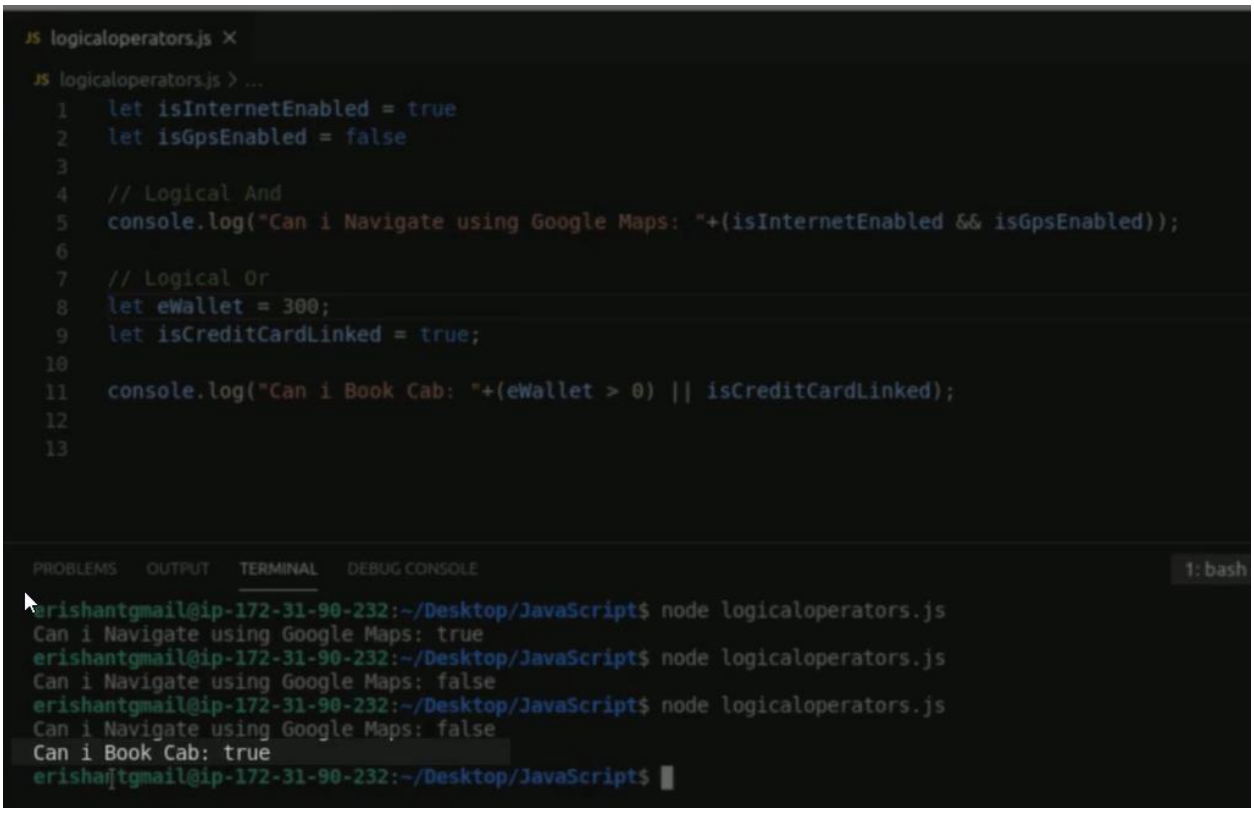
The output should be **false** because both conditions are not true.

Step 3: Implement logical OR operator

3.1 Add the code to use the logical OR operator (**||**) to check if either **eWallet** is greater than zero or the **isCreditCardLinked** is **true**. Print a message using **console.log(),** such as **"Can I book a cab?**

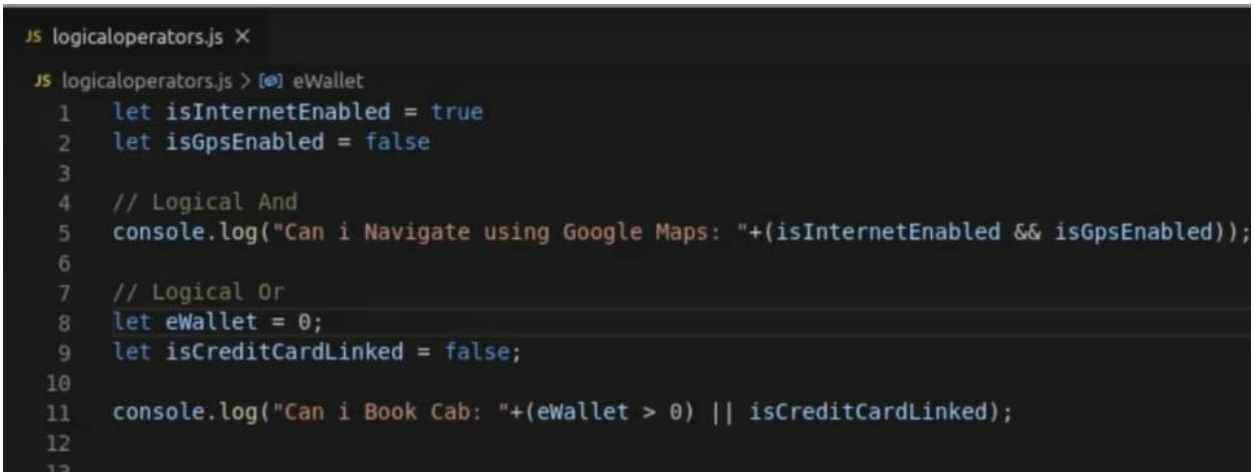


3.2 Run the JavaScript program using Node.js:
node logicaloperators.js

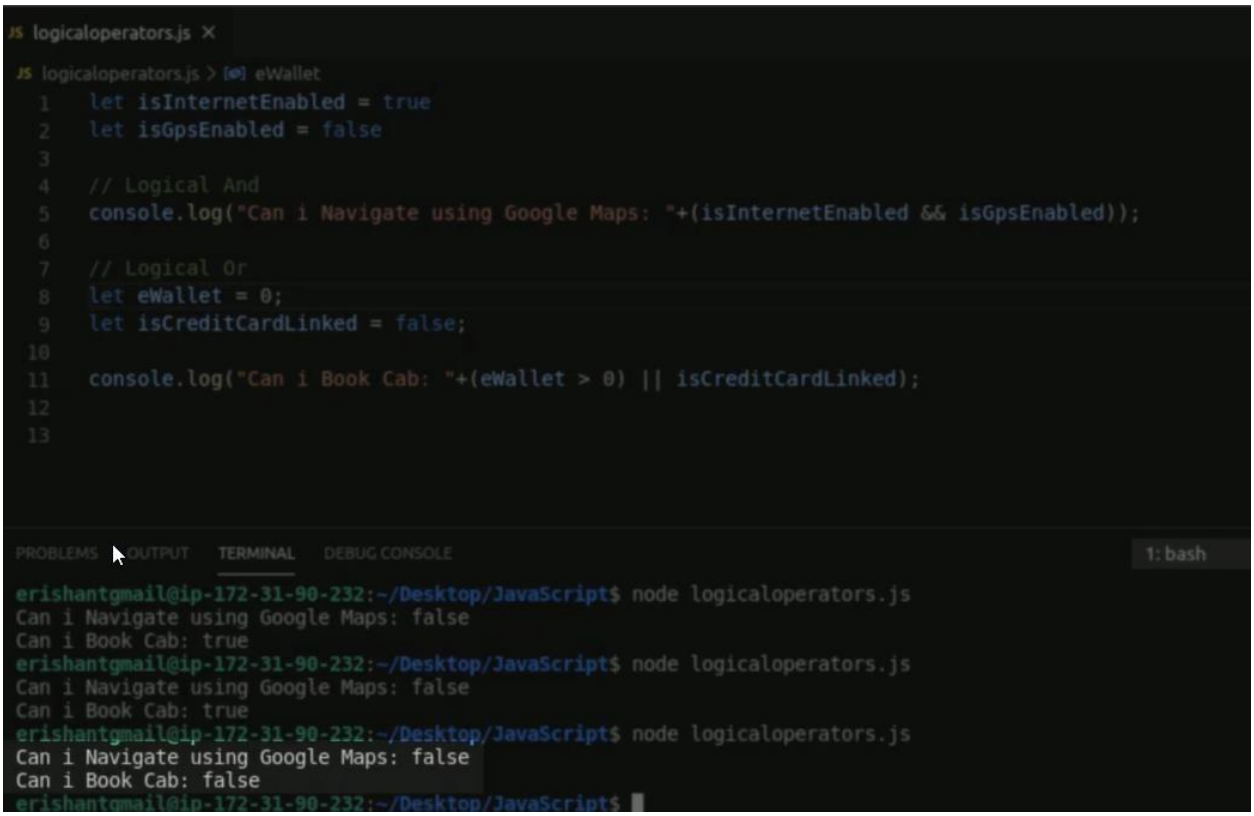


Observe the output on the console. If either **eWallet** is greater than zero or **isCreditCardLinked** is true, it will print **true**. Otherwise, it will print **false**.

3.3 Change the values of **eWallet** and **isCreditCardLinked** to different combinations of true and false



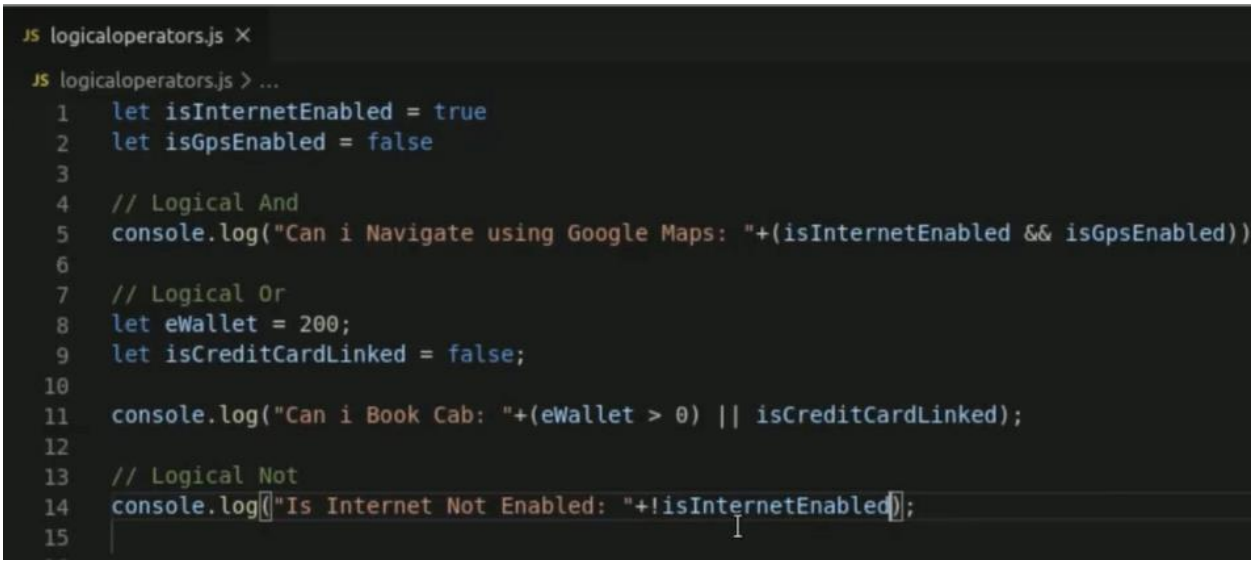
3.4 Run the program again and observe the output



The output should reflect the logical OR conditions.

Step 4: Implement logical NOT operator

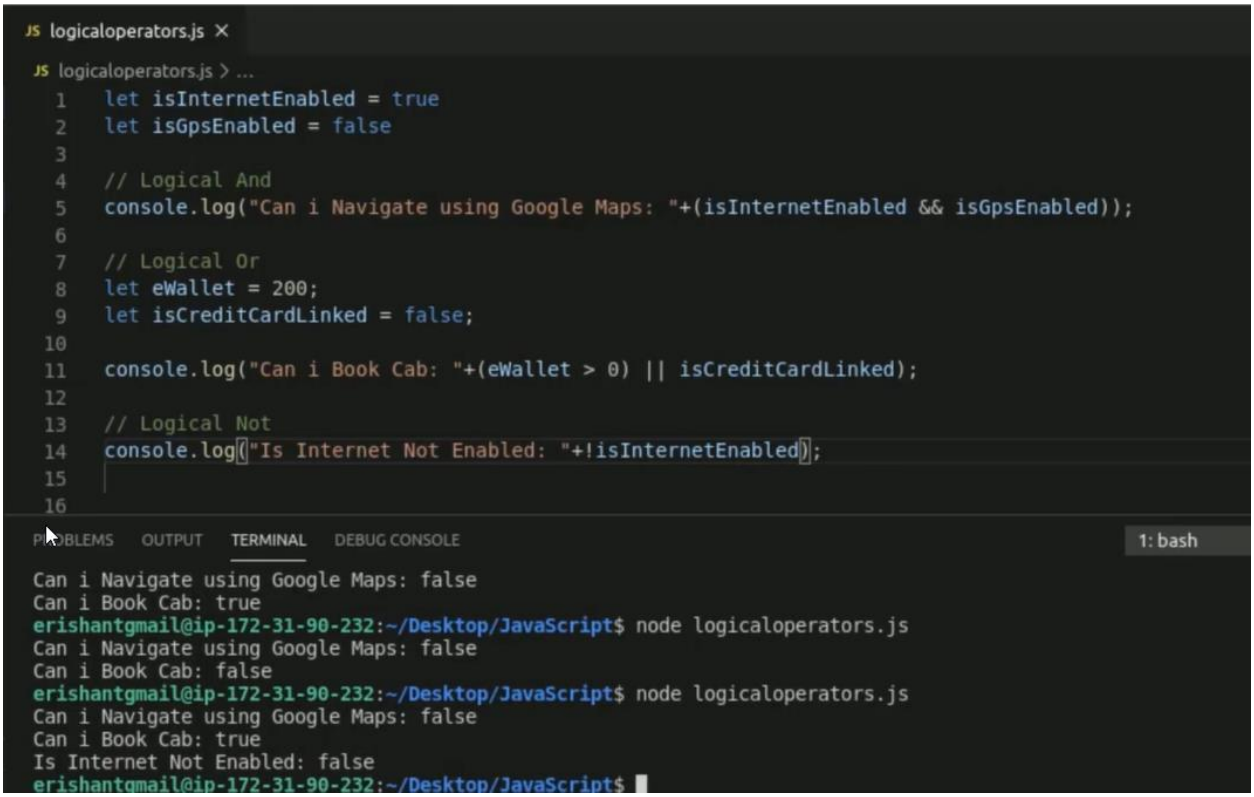
4.1 Use the **console.log()** function to write a message, such as **Is Internet Not Enabled:**, followed by the logical NOT operator (**!**) and **isInternetEnabled**



This will invert the Boolean value of **isInternetEnabled**.

4.2 Run the JavaScript program again using Node.js:

node logicaloperators.js



Observe the output on the console. If **isInternetEnabled** is true, the logical NOT operator will convert it to false, and vice versa.

By following the above steps, you have successfully demonstrated the use of logical operator in JavaScript for making decisions based on multiple conditions.