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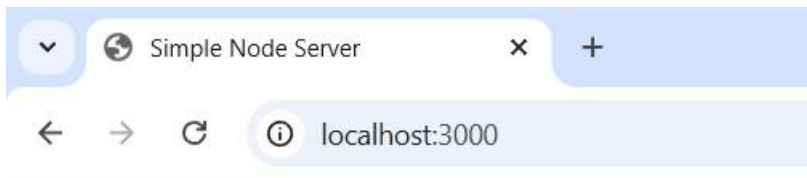
Sem. : 7 Roll No. : 47 Div. : A -----

Q1. Develop nodejs application with following requirements:

- Develop a route "/gethello" with GET method. It displays "Hello NodeJS!!" as response.
- Make an HTML page and display.
- Call "/gethello" route from HTML page using AJAX call. (Any frontend AJAX call API can be used.)



Q2. Develop a web server which serves static resources.



Hello from Node.js!

Q3. Develop a module for domain specific chatbot and use it in a command line application.

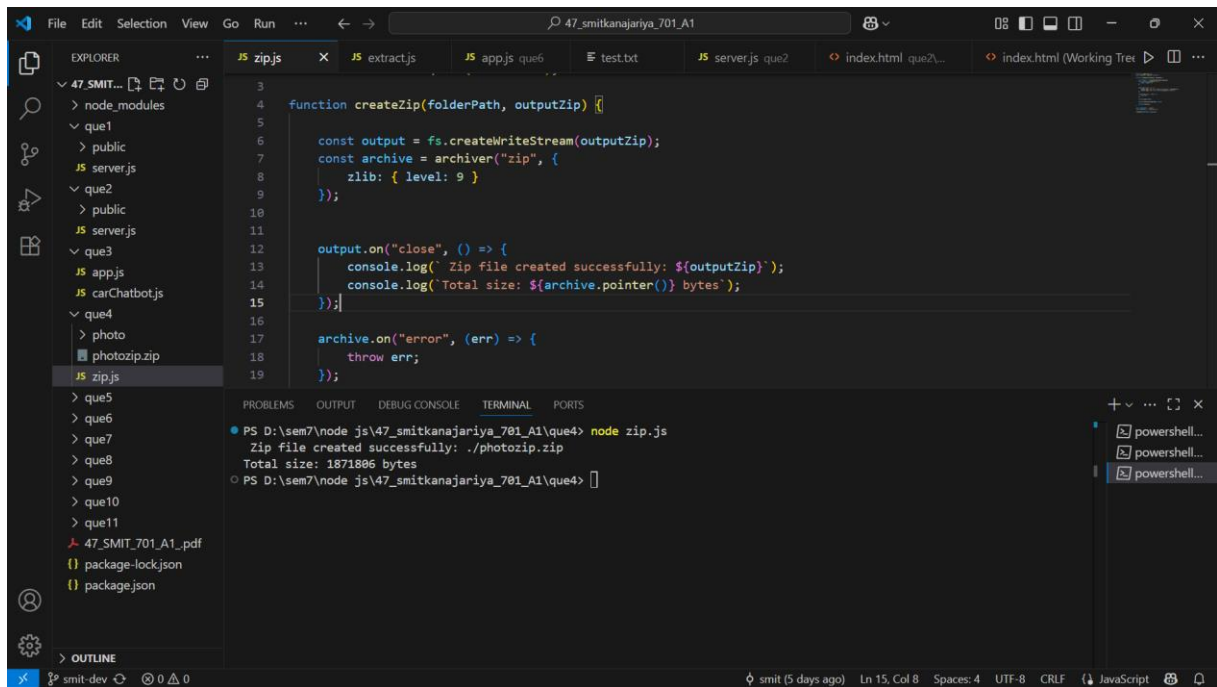
A screenshot of the Visual Studio Code editor. The Explorer sidebar on the left shows a project structure with folders 'node_modules', 'public', and 'server.js', and files 'app.js', 'carChatbot.js', 'package-lock.json', and 'package.json'. The main editor area shows the code for 'app.js'. The code uses the 'readline' module to create a command-line interface for a chatbot. The chatbot has a predefined set of responses for 'color', 'type', and 'price' queries. The Output window at the bottom shows the chatbot's responses to user input.

```
1 // app.js
2 const readline = require("readline");
3 const CarChatbot = require("./carChatbot.js");
4
5 const bot = new CarChatbot();
6
7 const rl = readline.createInterface({
8   input: process.stdin,
9   output: process.stdout
10 });
11
12 console.log("Car Chatbot is ready! Type 'bye' to exit.");
13 console.log("You can ask: color, type, price, features.");
14
15 function askQuestion() {
16   rl.question("You: ", (userInput) => {
17     const response = bot.getResponse(userInput);
18     console.log(response);
19     askQuestion();
20   });
21 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\sem7\node js\47_smitkanajariya_701_A1\que3> node app.js
Car Chatbot is ready! Type 'bye' to exit.
You can ask: color, type, price, features.
You: color
Bot: Available colors: Red, Blue, Black, White, Silver.
You: type
Bot: Available types: SUV, Sedan, Hatchback, Convertible.
You: price
Bot: Cars range from $20,000 to $100,000 depending on model.
You: bye
Bot: Goodbye! Drive safe.
PS D:\sem7\node js\47_smitkanajariya_701_A1\que3>
```

Q4. Write a program to create a compressed zip file for a folder.

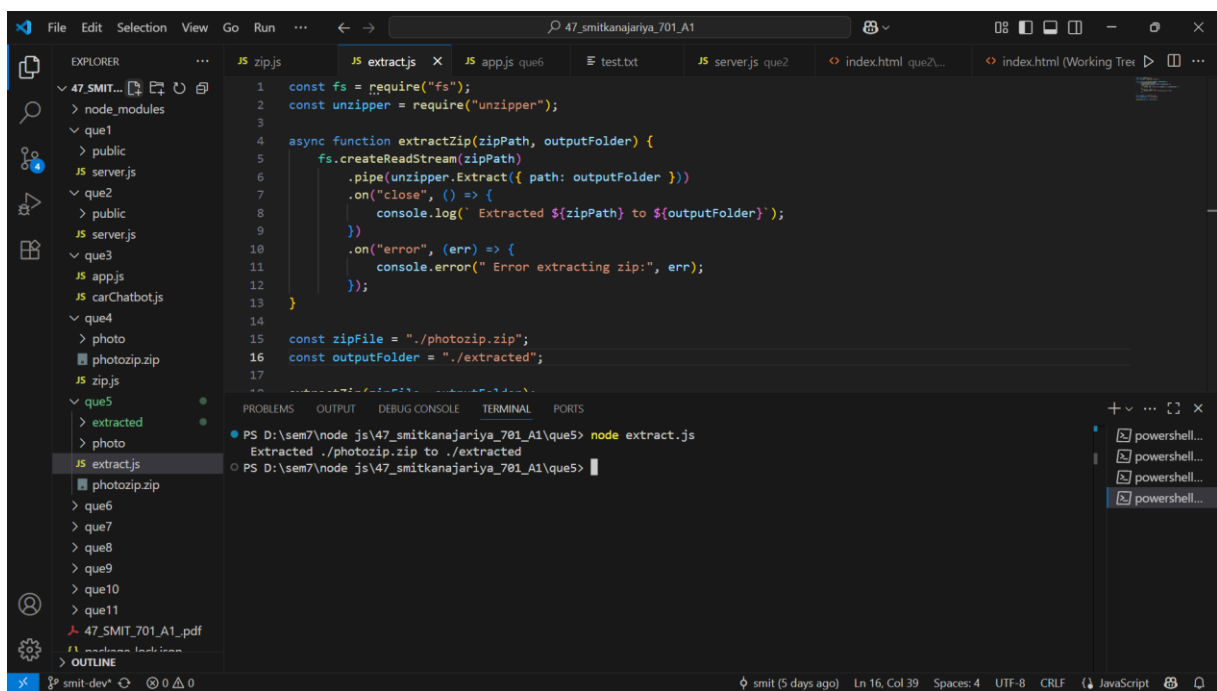


```
3
4 function createZip(folderPath, outputZip) {
5
6     const output = fs.createWriteStream(outputZip);
7     const archive = archiver("zip", {
8         zlib: { level: 9 }
9     });
10
11
12     output.on("close", () => {
13         console.log(` Zip file created successfully: ${outputZip}`);
14         console.log(` Total size: ${archive.pointer()} bytes`);
15     });
16
17     archive.on("error", (err) => {
18         throw err;
19     });
20 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS D:\sem7\node js\47_smitkanajariya_701_A1\que4> node zip.js
Zip file created successfully: ./photozip.zip
Total size: 1871806 bytes
PS D:\sem7\node js\47_smitkanajariya_701_A1\que4>

Q5. Write a program to extract a zip file.

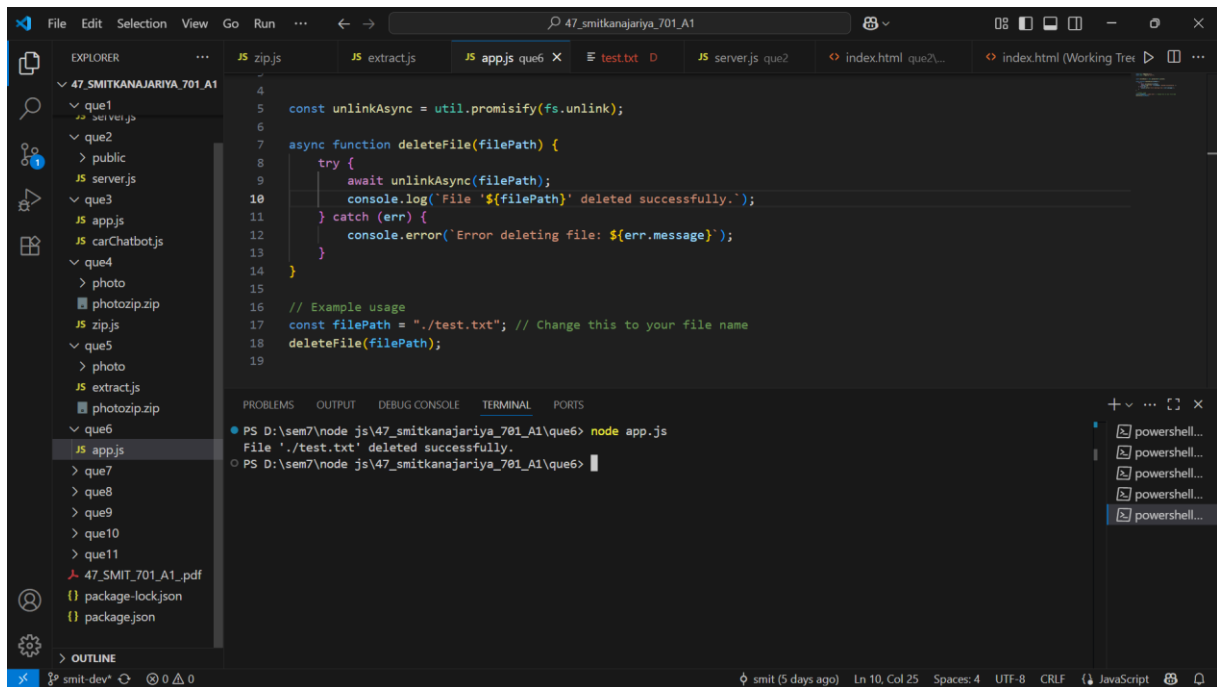


```
1 const fs = require("fs");
2 const unzipper = require("unzipper");
3
4 async function extractZip(zipPath, outputFolder) {
5     fs.createReadStream(zipPath)
6         .pipe(unzipper.Extract({ path: outputFolder }))
7         .on("close", () => {
8             console.log(` Extracted ${zipPath} to ${outputFolder}`);
9         })
10        .on("error", (err) => {
11            console.error(" Error extracting zip:", err);
12        });
13 }
14
15 const zipFile = "./photozip.zip";
16 const outputFolder = "./extracted";
17
18 extractZip(zipFile, outputFolder);
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS D:\sem7\node js\47_smitkanajariya_701_A1\que5> node extract.js
Extracted ./photozip.zip to ./extracted
PS D:\sem7\node js\47_smitkanajariya_701_A1\que5>

Q6. Write a program to promisify fs.unlink function and call it.



```
const unlinkAsync = util.promisify(fs.unlink);

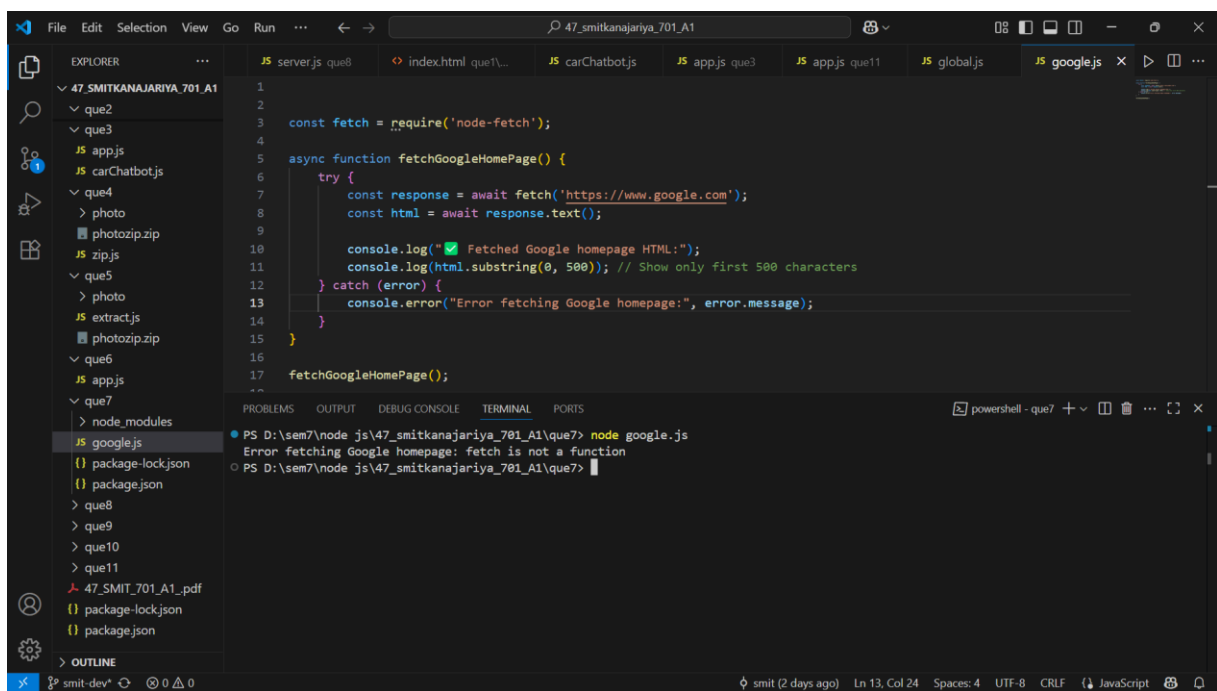
async function deleteFile(filePath) {
  try {
    await unlinkAsync(filePath);
    console.log(`File '${filePath}' deleted successfully.`);
  } catch (err) {
    console.error(`Error deleting file: ${err.message}`);
  }
}

// Example usage
const filePath = "./test.txt"; // Change this to your file name
deleteFile(filePath);
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS D:\sem7\node js\47_smitkanajariya_701_A1\que6> node app.js
File './test.txt' deleted successfully.
PS D:\sem7\node js\47_smitkanajariya_701_A1\que6>

Q7. Fetch data of google page using node-fetch using async-await model.



```
const fetch = require('node-fetch');

async function fetchGoogleHomePage() {
  try {
    const response = await fetch('https://www.google.com');
    const html = await response.text();

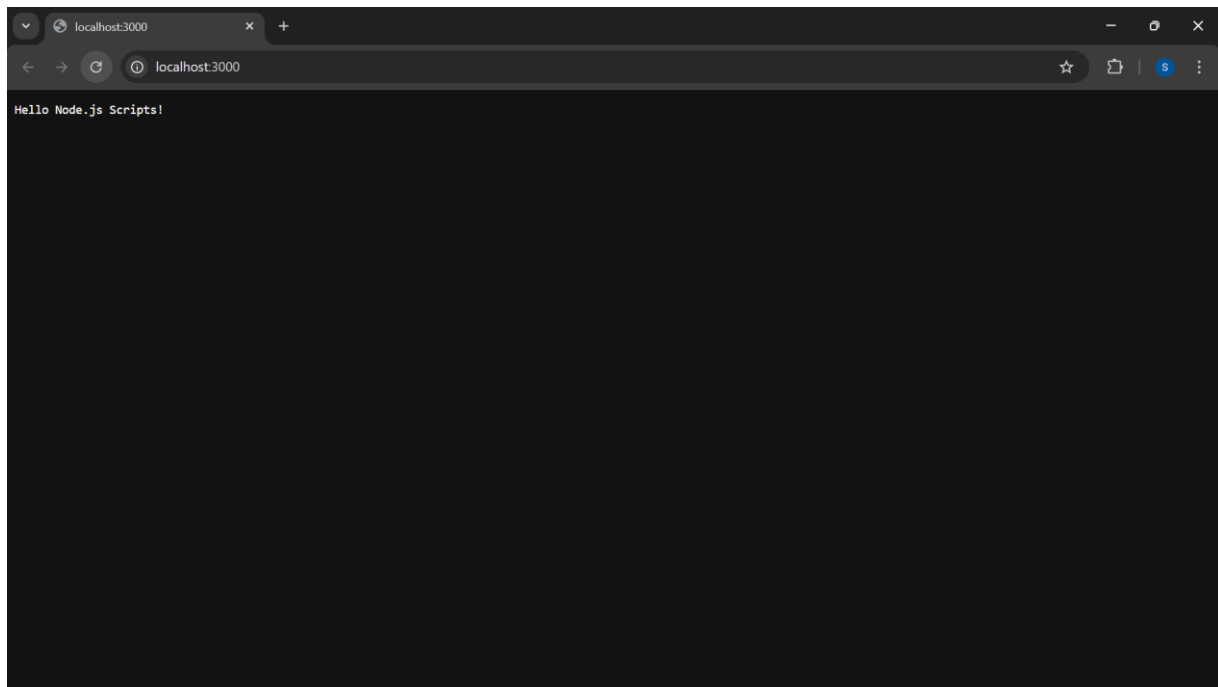
    console.log("✅ Fetched Google homepage HTML:");
    console.log(html.substring(0, 500)); // Show only first 500 characters
  } catch (error) {
    console.error("Error fetching Google homepage:", error.message);
  }
}

fetchGoogleHomePage();
```

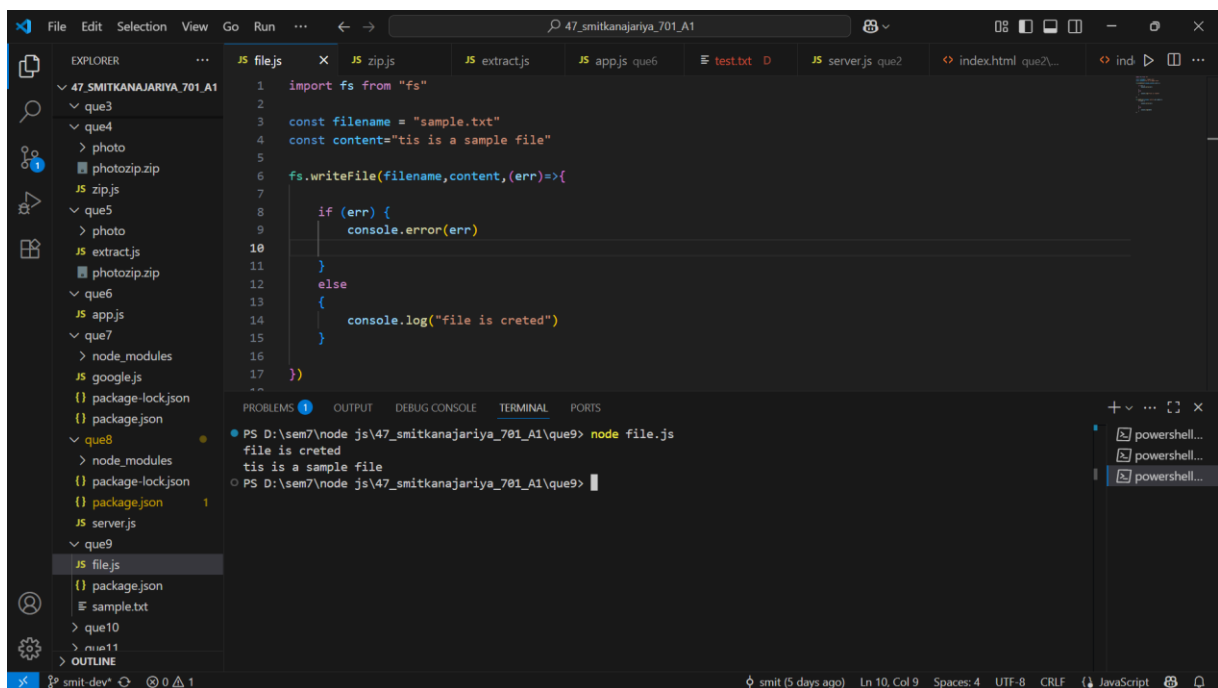
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS D:\sem7\node js\47_smitkanajariya_701_A1\que7> node google.js
Error fetching Google homepage: fetch is not a function
PS D:\sem7\node js\47_smitkanajariya_701_A1\que7>

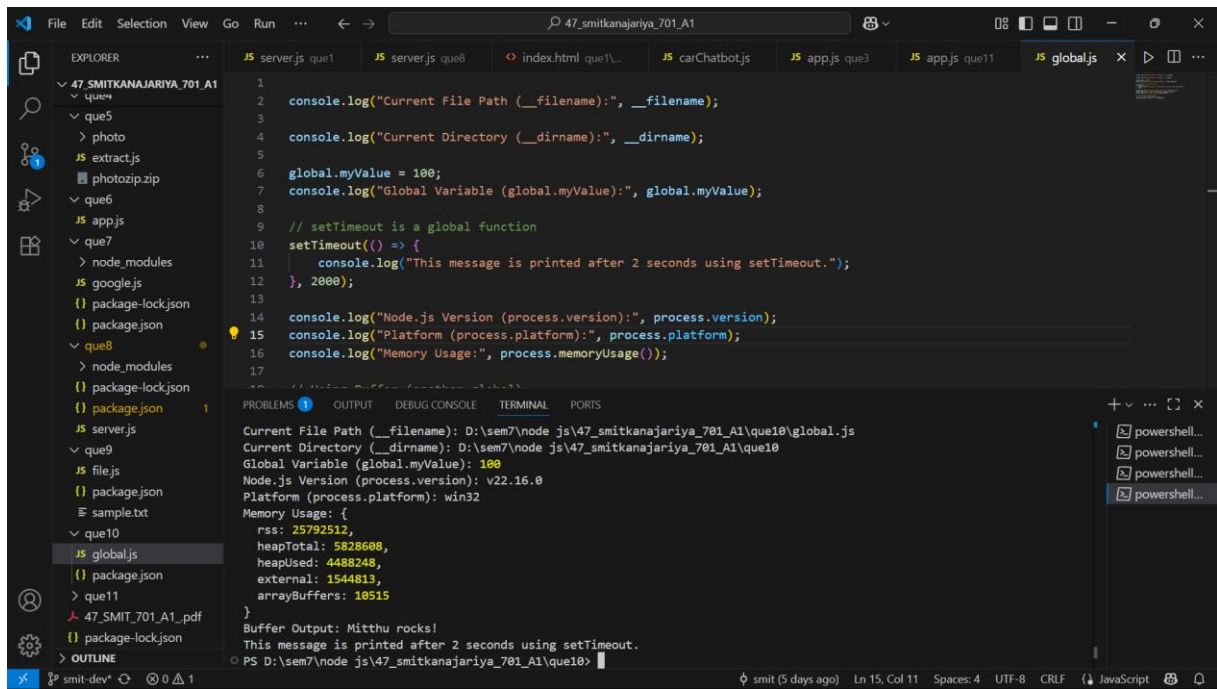
Q8. Set a server script, a test script and 3 user defined scripts in package.json file in your nodejs application.



Q9. A program which calls useful functions in fs module.



Q10. A program which uses global objects in nodejs.

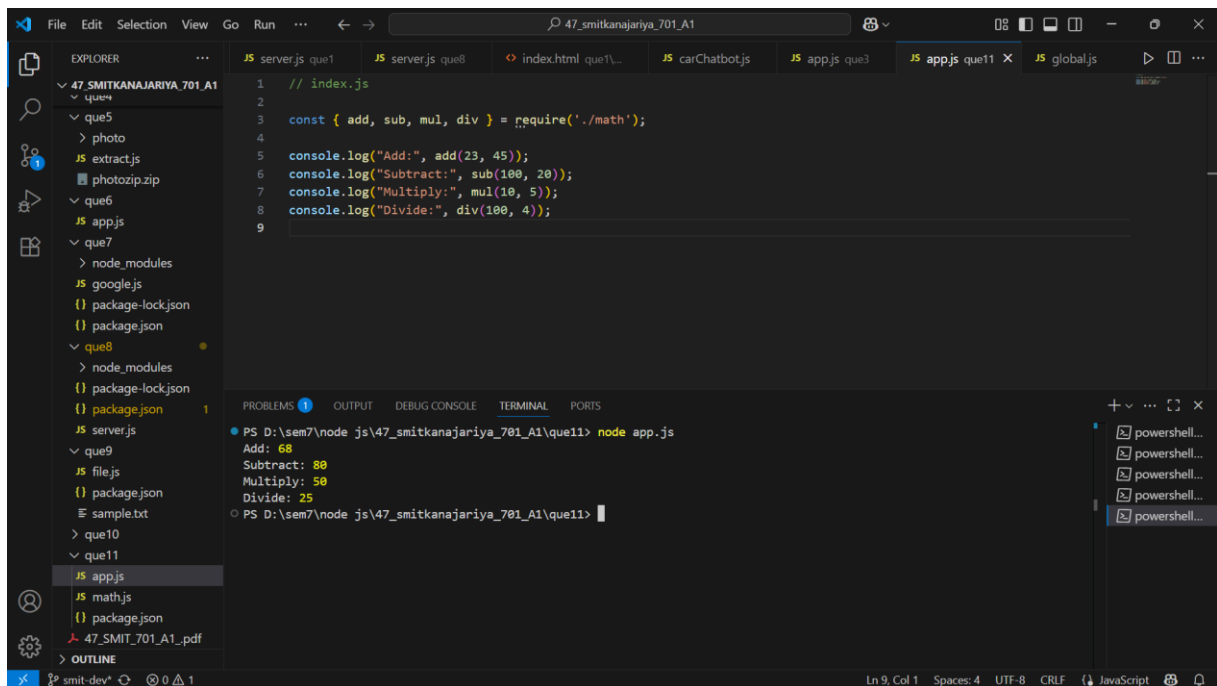


```
1 console.log("Current File Path (__filename):", __filename);
2
3 console.log("Current Directory (__dirname):", __dirname);
4
5 global.myValue = 100;
6 console.log("Global Variable (global.myValue):", global.myValue);
7
8 // setTimeout is a global function
9 setTimeout(() => {
10     console.log("This message is printed after 2 seconds using setTimeout.");
11 }, 2000);
12
13
14 console.log("Node.js Version (process.version):", process.version);
15 console.log("Platform (process.platform):", process.platform);
16 console.log("Memory Usage:", process.memoryUsage());
17
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Current File Path (__filename): D:\sem7\node js\47_smitkanajariya_701_A1\que10\global.js
Current Directory (__dirname): D:\sem7\node js\47_smitkanajariya_701_A1\que10
Global Variable (global.myValue): 100
Node.js Version (process.version): v22.16.0
Platform (process.platform): win32
Memory Usage: {
 rss: 25792512,
 heapTotal: 5828608,
 heapUsed: 4488248,
 external: 1544813,
 arrayBuffers: 10515
}
Buffer Output: Mitthu rocks!
This message is printed after 2 seconds using setTimeout.
PS D:\sem7\node js\47_smitkanajariya_701_A1\que10>

Q11. Develop a useful package and publish it on npmjs.com



```
1 // index.js
2
3 const { add, sub, mul, div } = require('./math');
4
5 console.log("Add:", add(23, 45));
6 console.log("Subtract:", sub(100, 20));
7 console.log("Multiply:", mul(10, 5));
8 console.log("Divide:", div(100, 4));
9
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS D:\sem7\node js\47_smitkanajariya_701_A1\que11> node app.js
Add: 68
Subtract: 80
Multiply: 50
Divide: 25
PS D:\sem7\node js\47_smitkanajariya_701_A1\que11>

