

## **Practical Assignment - 1**

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**Roll no. :- 12**

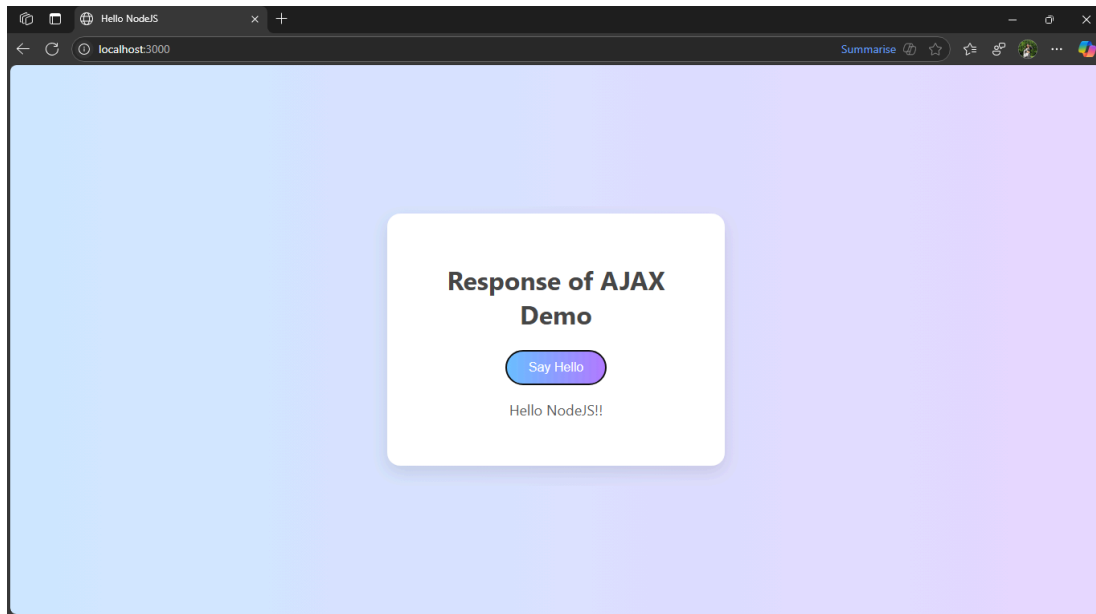
**Semester :- 3rd MSCICT**

**Subject :- 304 - Open Source Web Development**

## 1. Develop nodejs application with following requirements:

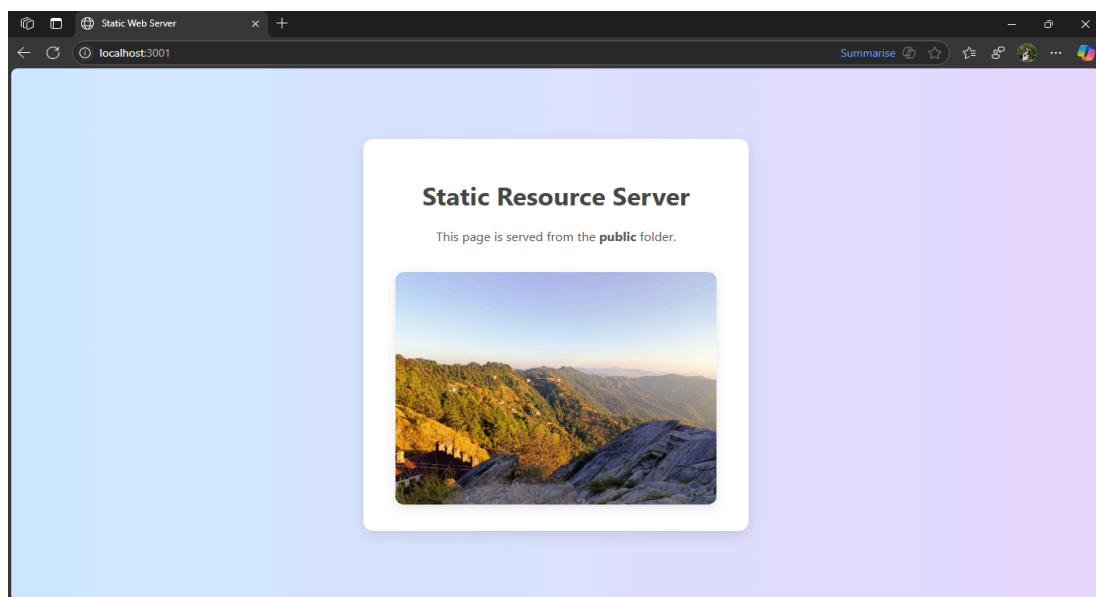
- Develop a route `"/gethello"` with GET method. It displays `"Hello NodeJS!!"` as response.
- Make an HTML page and display.
- Call `"/gethello"` route from HTML page using AJAX call. (Any frontend AJAX call API can be used.)

Screenshot :-



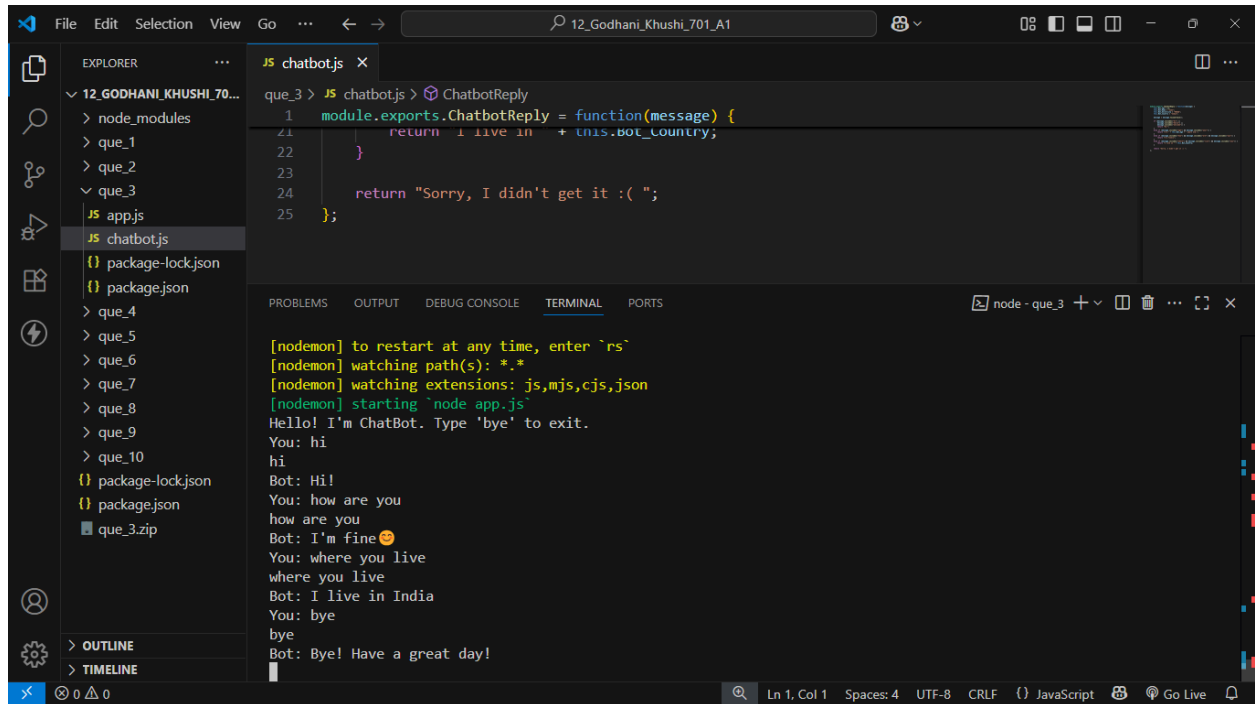
## 2. Develop a web server which serves static resources.

Screenshot:-



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

Screenshot:-



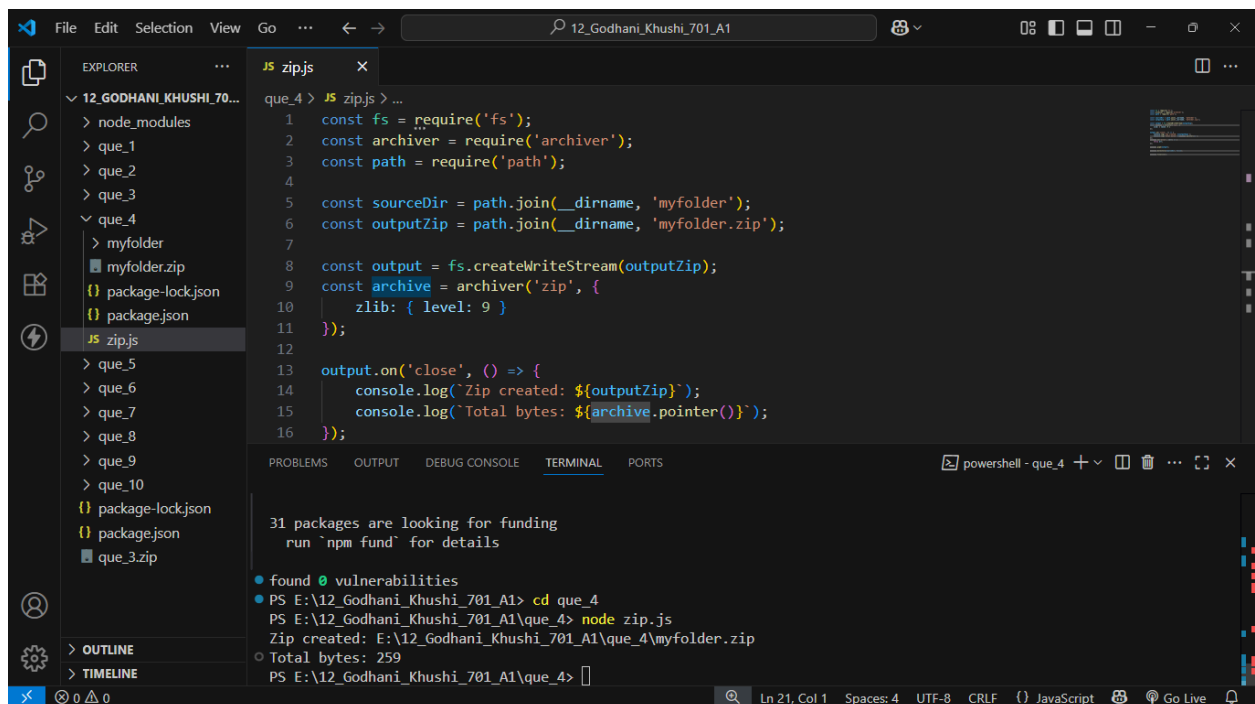
The screenshot shows a VS Code editor with a project named '12\_GODHANI\_KHUSHI\_701\_A1'. The Explorer sidebar on the left shows a file structure with folders 'que\_1' through 'que\_10' and files 'app.js', 'chatbot.js', 'package-lock.json', and 'package.json'. The 'chatbot.js' file is open in the editor, showing a function 'ChatbotReply' that returns a response based on the input message. The terminal at the bottom shows the output of running 'node app.js', which displays a chatbot interface where a user can interact with the bot. The bot responds with 'Hello! I'm ChatBot. Type 'bye' to exit.' and 'I live in India' when asked 'where you live'.

```
1 module.exports.ChatbotReply = function(message) {
2   return 'I live in ' + this.Bot_Country;
3 }
4
5 return "Sorry, I didn't get it :( ";
6 };
```

```
[nodeemon] to restart at any time, enter `rs`
[nodeemon] watching path(s): *.*
[nodeemon] watching extensions: js,mjs,cjs,json
[nodeemon] starting `node app.js`
Hello! I'm ChatBot. Type 'bye' to exit.
You: hi
hi
Bot: Hi!
You: how are you
how are you
Bot: I'm fine 😊
You: where you live
where you live
Bot: I live in India
You: bye
bye
Bot: Bye! Have a great day!
```

### 4. Write a program to create a compressed zip file for a folder.

Screenshot:-



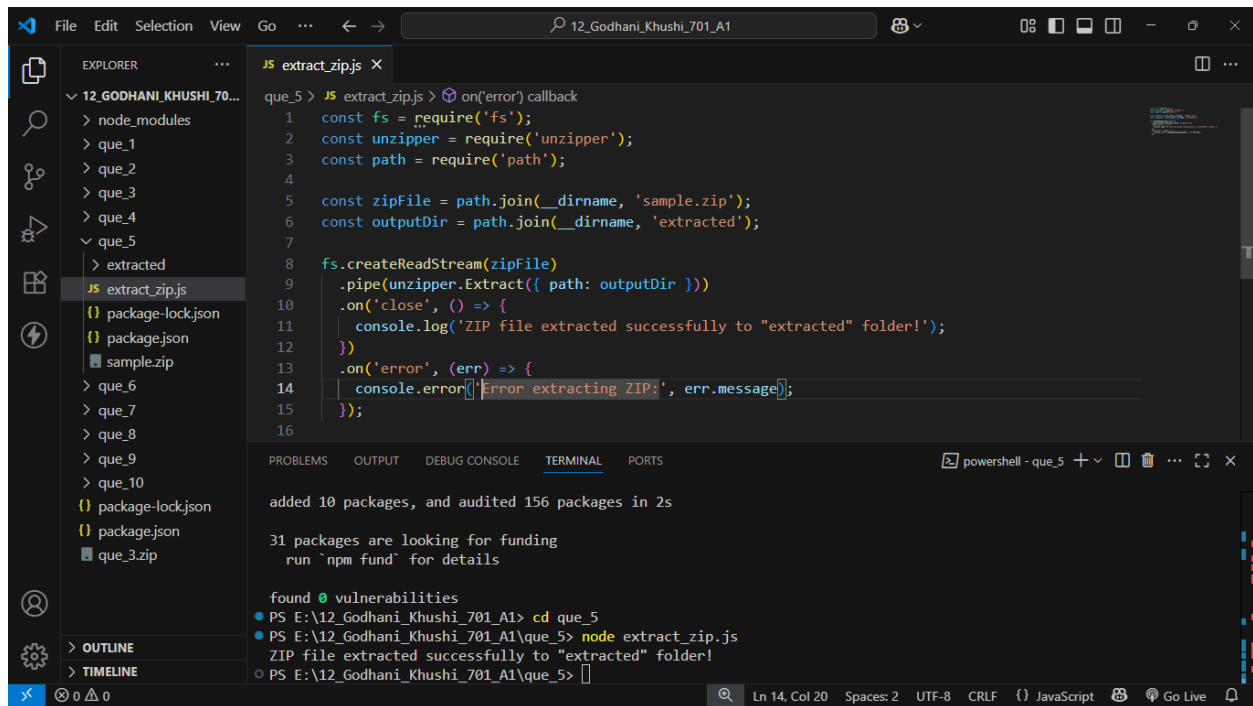
The screenshot shows a VS Code editor with a project named '12\_GODHANI\_KHUSHI\_701\_A1'. The Explorer sidebar on the left shows a file structure with folders 'que\_1' through 'que\_10' and files 'zip.js', 'package-lock.json', and 'package.json'. The 'zip.js' file is open in the editor, showing a program that creates a zip file from a folder. The terminal at the bottom shows the output of running 'node zip.js', which displays the path to the created zip file and the total bytes.

```
1 const fs = require('fs');
2 const archiver = require('archiver');
3 const path = require('path');
4
5 const sourceDir = path.join(__dirname, 'myfolder');
6 const outputZip = path.join(__dirname, 'myfolder.zip');
7
8 const output = fs.createWriteStream(outputZip);
9 const archive = archiver('zip', {
10   zlib: { level: 9 }
11 });
12
13 output.on('close', () => {
14   console.log(`Zip created: ${outputZip}`);
15   console.log(`Total bytes: ${archive.pointer()}`);
16 });
```

```
31 packages are looking for funding
  run `npm fund` for details
• found 0 vulnerabilities
PS E:\12_Godhani_Khushi_701_A1> cd que_4
PS E:\12_Godhani_Khushi_701_A1\que_4> node zip.js
Zip created: E:\12_Godhani_Khushi_701_A1\que_4\myfolder.zip
Total bytes: 259
PS E:\12_Godhani_Khushi_701_A1\que_4>
```

## 5. Write a program to extract a zip file.

Screenshot:-



The screenshot shows a Visual Studio Code editor with a file explorer on the left and a code editor in the center. The file explorer shows a project structure with folders 'node\_modules', 'que\_1' through 'que\_10', and files 'package-lock.json', 'package.json', and 'que\_3.zip'. The code editor shows a file named 'extract\_zip.js' with the following code:

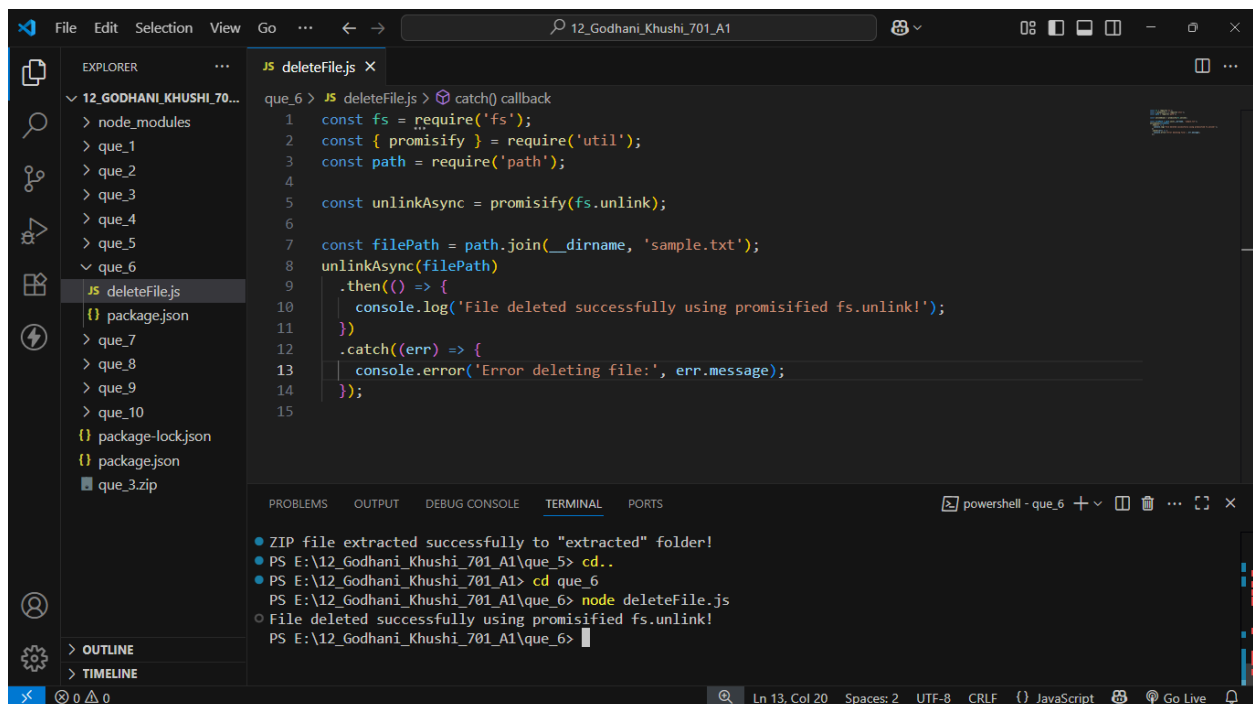
```
1 const fs = require('fs');
2 const unzipper = require('unzipper');
3 const path = require('path');
4
5 const zipFile = path.join(__dirname, 'sample.zip');
6 const outputDir = path.join(__dirname, 'extracted');
7
8 fs.createReadStream(zipFile)
9   .pipe(unzipper.Extract({ path: outputDir }))
10  .on('close', () => {
11    console.log('ZIP file extracted successfully to "extracted" folder!');
12  })
13  .on('error', (err) => {
14    console.error('Error extracting ZIP:', err.message);
15  });
```

The terminal at the bottom shows the following output:

```
added 10 packages, and audited 156 packages in 2s
31 packages are looking for funding
  run `npm fund` for details
found 0 vulnerabilities
PS E:\12_Godhani_Khushi_701_A1> cd que_5
PS E:\12_Godhani_Khushi_701_A1\que_5> node extract_zip.js
ZIP file extracted successfully to "extracted" folder!
PS E:\12_Godhani_Khushi_701_A1\que_5>
```

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

Screenshot:-



The screenshot shows a Visual Studio Code editor with a file explorer on the left and a code editor in the center. The file explorer shows a project structure with folders 'node\_modules', 'que\_1' through 'que\_10', and files 'package-lock.json', 'package.json', and 'que\_3.zip'. The code editor shows a file named 'deleteFile.js' with the following code:

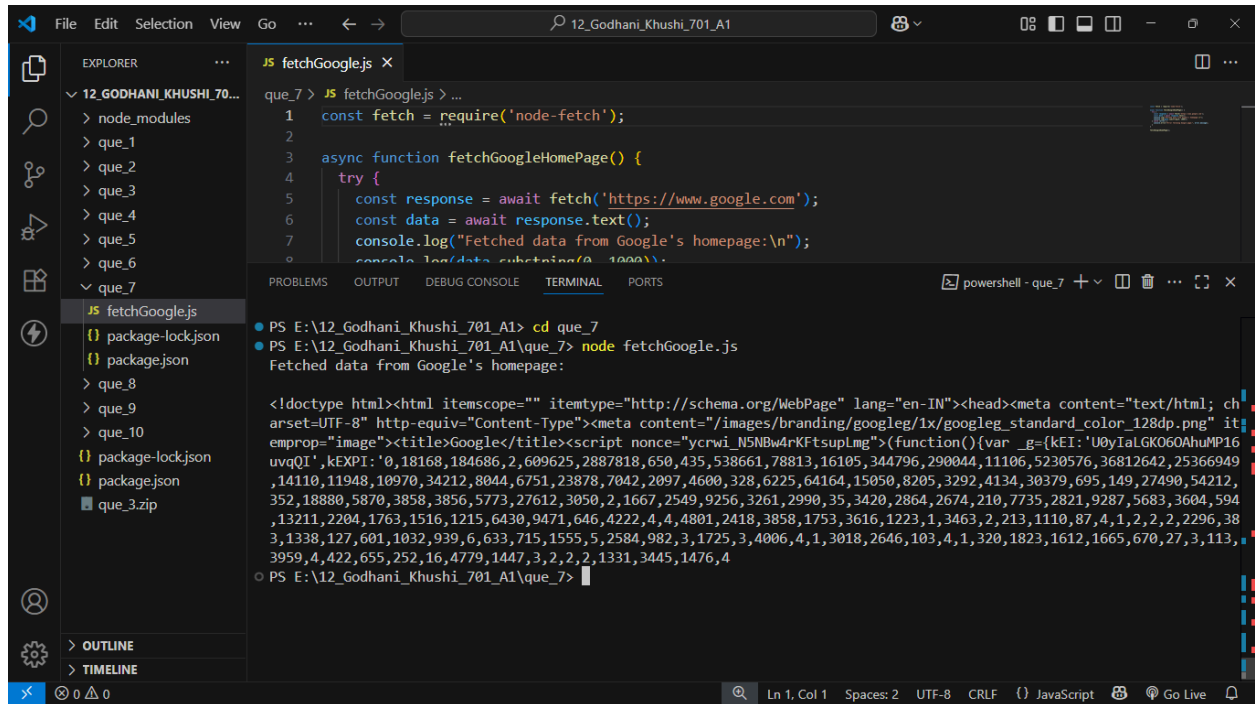
```
1 const fs = require('fs');
2 const { promisify } = require('util');
3 const path = require('path');
4
5 const unlinkAsync = promisify(fs.unlink);
6
7 const filePath = path.join(__dirname, 'sample.txt');
8 unlinkAsync(filePath)
9   .then(() => {
10     console.log('File deleted successfully using promisified fs.unlink!');
11   })
12   .catch((err) => {
13     console.error('Error deleting file:', err.message);
14   });
```

The terminal at the bottom shows the following output:

```
ZIP file extracted successfully to "extracted" folder!
PS E:\12_Godhani_Khushi_701_A1\que_5> cd..
PS E:\12_Godhani_Khushi_701_A1> cd que_6
PS E:\12_Godhani_Khushi_701_A1\que_6> node deleteFile.js
File deleted successfully using promisified fs.unlink!
PS E:\12_Godhani_Khushi_701_A1\que_6>
```

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

Screenshot:-



```
1  const fetch = require('node-fetch');
2
3  async function fetchGoogleHomePage() {
4    try {
5      const response = await fetch('https://www.google.com');
6      const data = await response.text();
7      console.log("Fetched data from Google's homepage:\n");
8      console.log(data.substring(0, 1000));
9    } catch (error) {
10     console.error(error);
11   }
12 }
13
14 if (require.main === module) {
15   fetchGoogleHomePage();
16 }
```

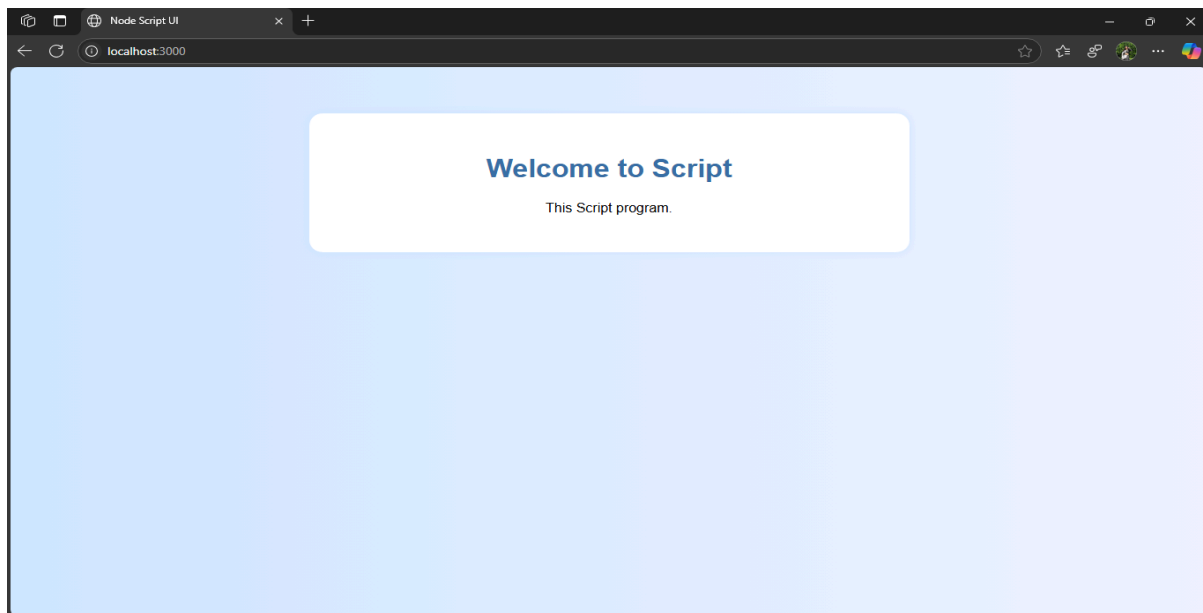
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

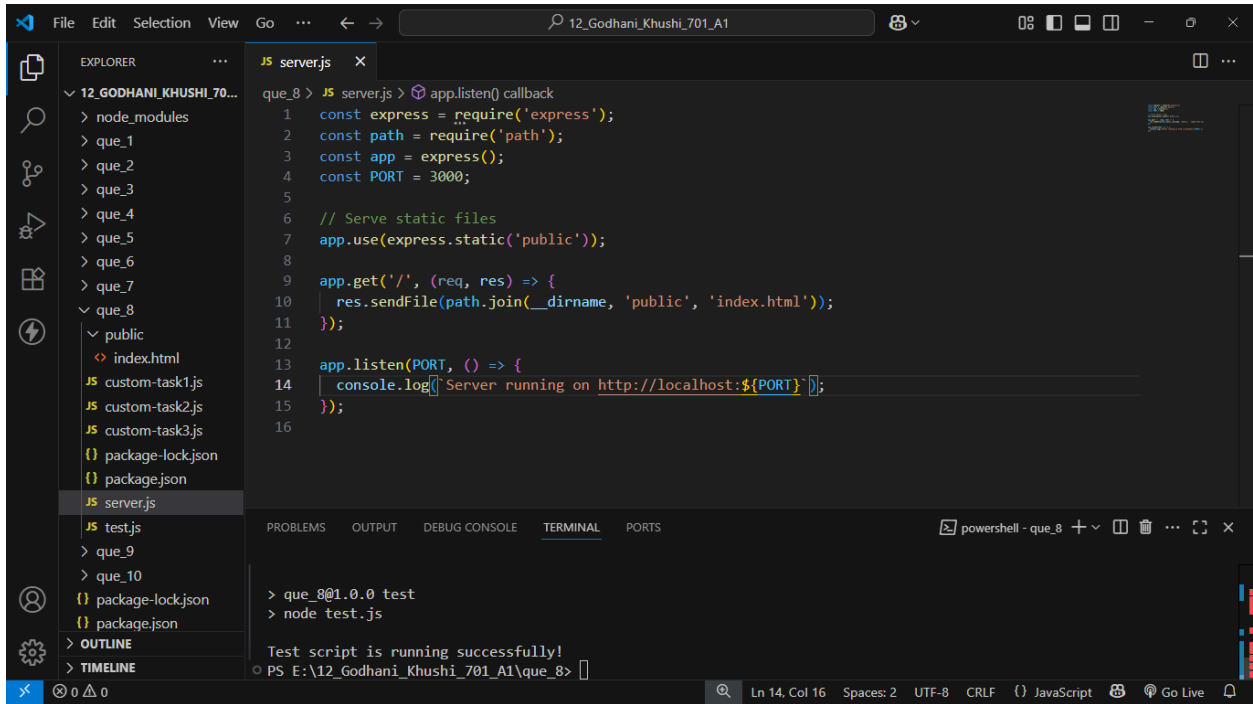
PS E:\12\_Godhani\_Khushi\_701\_A1> cd que\_7  
PS E:\12\_Godhani\_Khushi\_701\_A1\que\_7> node fetchGoogle.js  
Fetched data from Google's homepage:

```
<!doctype html><html itemscope="" itemtype="http://schema.org/WebPage" lang="en-IN"><head><meta content="text/html; ch
arset=UTF-8" http-equiv="Content-Type"><meta content="/images/branding/googleg/1x/googleg_standard_color_128dp.png" it
empnop="image"><title>Google</title><script nonce="ycrwi_N5NBw4rKFtsupLmg">(function(){var _g={kEI:'U0yIaLGK060AhuMP16
uvqQI',kEXPI:'0,18168,184686,2,609625,2887818,650,435,538661,78813,16105,344796,290044,11106,5230576,36812642,25366949
,14110,11948,10970,34212,8044,6751,23878,7042,2097,4600,328,6225,64164,15050,8205,3292,4134,30379,695,149,27490,54212,
352,18880,5870,3858,3856,5773,27612,3050,2,1667,2549,9256,3261,2990,35,3420,2864,2674,210,7735,2821,9287,5683,3604,594
,13211,2204,1763,1516,1215,6430,9471,646,4222,4,4,4801,2418,3858,1753,3616,1223,1,3463,2,213,1110,87,4,1,2,2,2,2296,38
3,1338,127,601,1032,939,6,633,715,1555,5,2584,982,3,1725,3,4006,4,1,3018,2646,103,4,1,320,1823,1612,1665,670,27,3,113,
3959,4,422,655,252,16,4779,1447,3,2,2,2,1331,3445,1476,4
PS E:\12_Godhani_Khushi_701_A1\que_7>
```

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

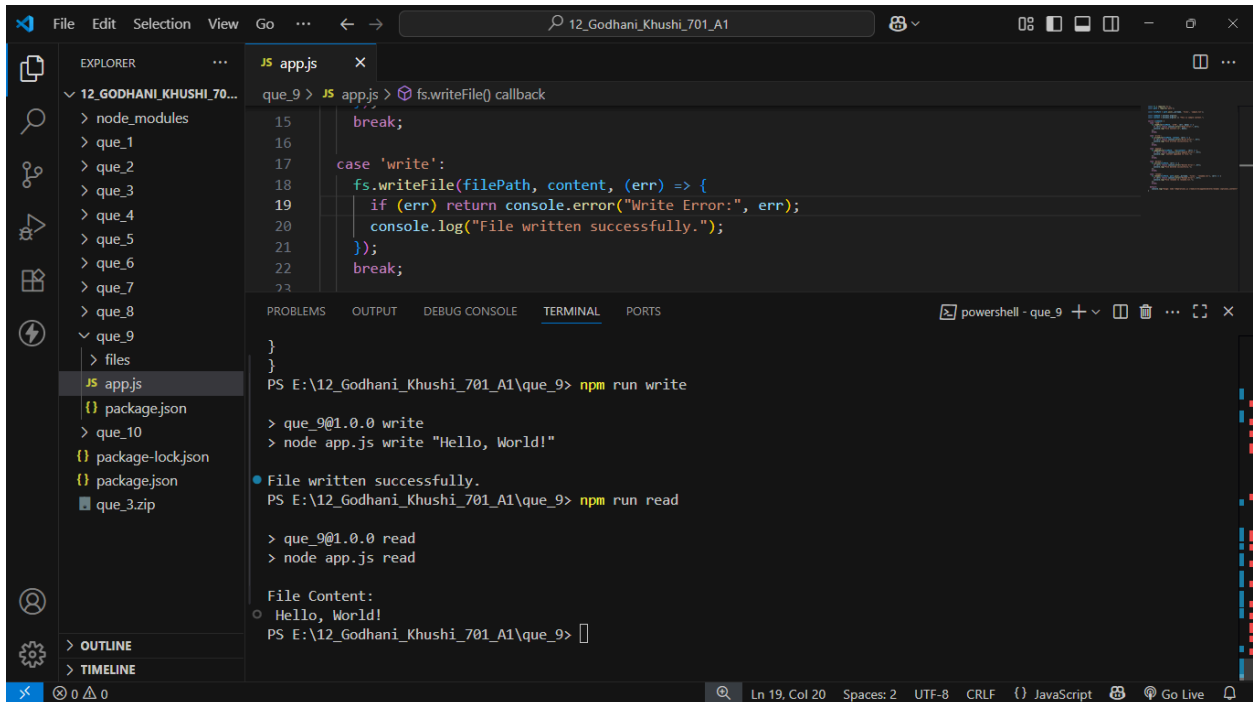
Screenshot:-





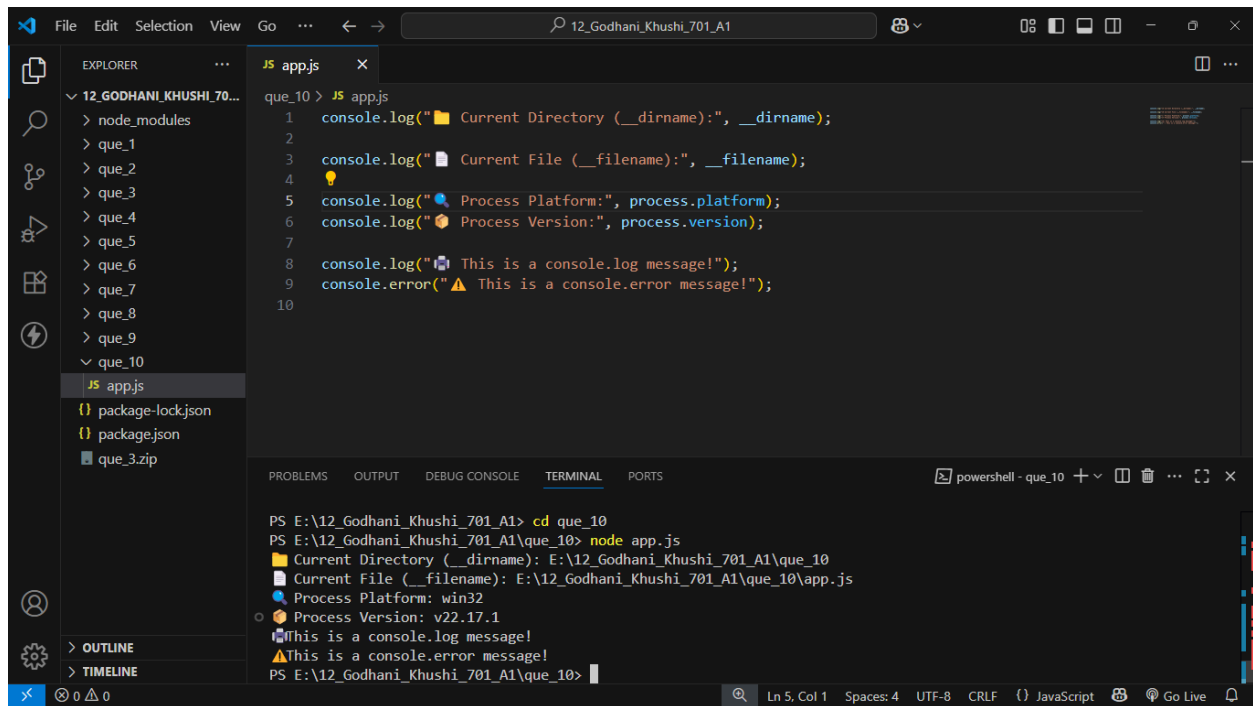
## 9. A program which calls useful functions in fs module.

Screenshot:-



## 10. A program which uses global objects in nodejs.

Screenshot:-



The screenshot shows a Visual Studio Code editor with a file explorer on the left, a code editor in the center, and a terminal at the bottom. The file explorer shows a project named '12\_GODHANI\_KHUSHI\_70...' with a folder 'que\_10' containing 'app.js', 'package-lock.json', 'package.json', and 'que\_3.zip'. The code editor shows the following JavaScript code in 'app.js':

```
1 console.log("Current Directory (__dirname):", __dirname);
2
3 console.log("Current File (__filename):", __filename);
4
5 console.log("Process Platform:", process.platform);
6 console.log("Process Version:", process.version);
7
8 console.log("This is a console.log message!");
9 console.error("This is a console.error message!");
10
```

The terminal at the bottom shows the command prompt output:

```
PS E:\12_Godhani_Khushi_701_A1> cd que_10
PS E:\12_Godhani_Khushi_701_A1\que_10> node app.js
Current Directory (__dirname): E:\12_Godhani_Khushi_701_A1\que_10
Current File (__filename): E:\12_Godhani_Khushi_701_A1\que_10\app.js
Process Platform: win32
Process Version: v22.17.1
This is a console.log message!
This is a console.error message!
```

## 11. Develop a useful package and publish it on [npmjs.com](https://www.npmjs.com).

❖ [npm | khushigodhani Settings: Packages](https://www.npmjs.com/settings/khushigodhani/packages)

