

# **Practical Assignment=1**

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**Roll No : 123**

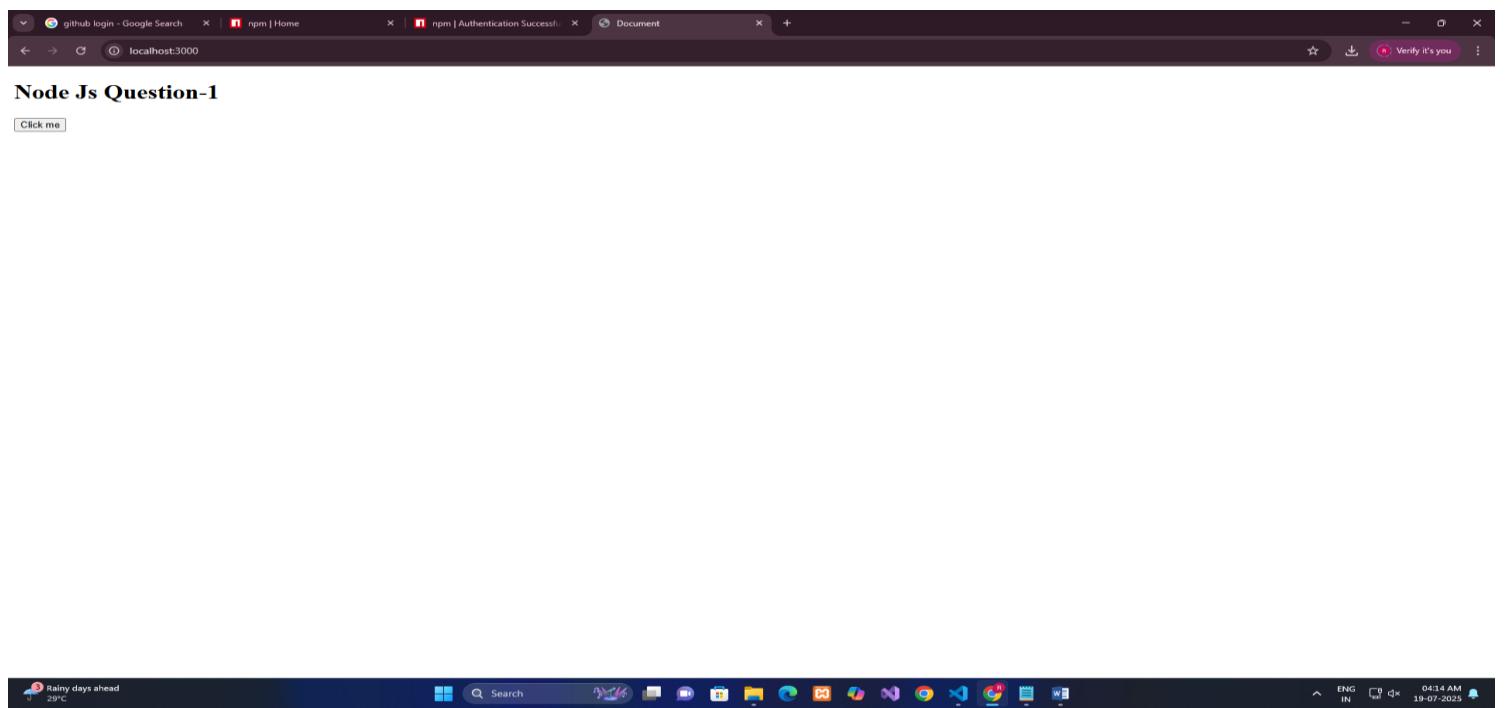
**Div : B**

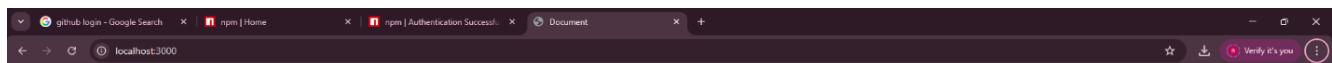
**Sem : 7**

# Que-1:

The screenshot shows the Visual Studio Code interface. The Explorer sidebar on the left lists a project folder 'ASS\_1' containing files like 'node\_modules', 'que\_1', 'static', and numbered files from 'que\_2' to 'que\_11'. The 'package-lock.json' and 'package.json' files are also visible. The 'TERMINAL' tab at the bottom displays the command-line output of running 'nodemon que\_1'. The terminal window shows the nodemon process starting and monitoring the 'que\_1' file.

```
PS B:\sem7_123\Ass_1\que_1> nodemon que_1
[nodemon] 3.1.10
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node que_1.js`
Example app listening on port 3000!
```





### Node Js Question-1

[Click me](#)  
Hello NodeJs! here i am responding at gethello



## Que-2

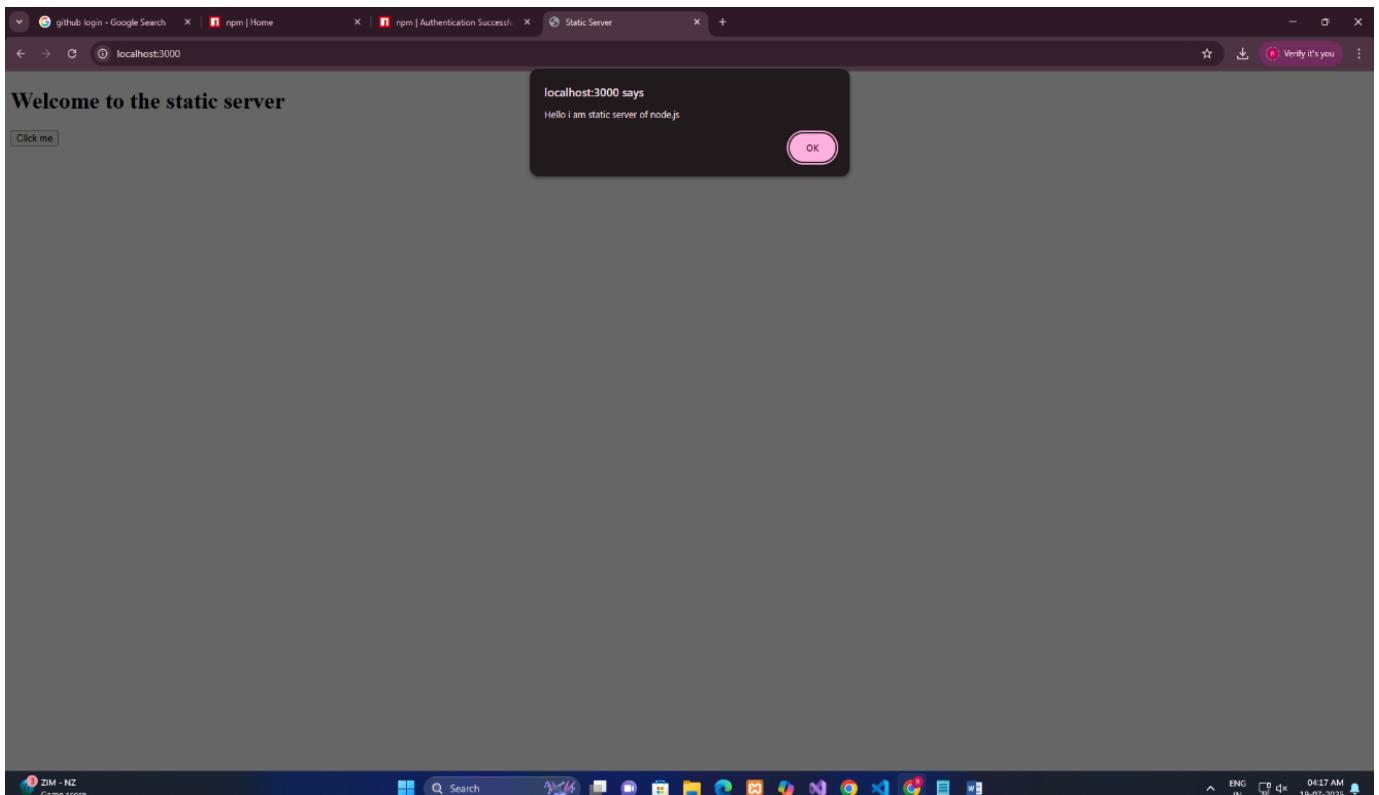
```
que_2.js
que_2 > que_2.js > ...
1 const e = require('express')
2 const express = require('express')
3 const app = express()
4 const port = 3000
5
6 app.use(express.static('./public'))
7 app.get('/', (req, res) => res.send('Hello World!'))
8 app.listen(port, () => console.log(`Example app listening on port ${port}!`))

PS B:\sem7_123\Ass_1\que_2> nodemon que_2
[nodemon] 3.1.10
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node que_2.js`
Example app listening on port 3000!
```



Welcome to the static server

[Click me](#)



Welcome to the static server

[Click me](#)

localhost:3000 says  
Hello I am static server of node.js

OK



# Que-3

The screenshot shows a code editor interface with two tabs open: `app.js` and `chatbot.js`. The `app.js` tab is active, displaying the following code:

```
que_3 > app.js > ⓘ r1
1 const readline=require('readline');
2 const {chatbotReply}=require('../chatbot');
3 const {Console}=require('console');
4
5 const r1=readline.createInterface({
6   input:process.stdin,
7   output:process.stdout
8 });
9
10 console.log("Your's Chatbot");
11 console.log("Type your message and press Enter.");
12 console.log("Type 'exit' to quit.\n");
13
14 Tabnine | Edit | Test | Explain | Document
function ask(){
  r1.question('You : ',(input)=>{
    if(input.toLowerCase()=='exit'){
      console.log('Bot: Goodbye! Have a wonderful day! 🌟');
      r1.close();
      return;
    }
    const reply=chatbotReply(input);
    console.log('Bot : ', reply);
    ask();
  });
}
ask();
```

The `chatbot.js` tab is also visible in the background. The bottom status bar shows the weather as 29°C Mostly cloudy and the date/time as 04:26 AM 19-07-2025.

The screenshot shows a code editor interface with two tabs open: `app.js` and `chatbot.js`. The `chatbot.js` tab is active, displaying the following code:

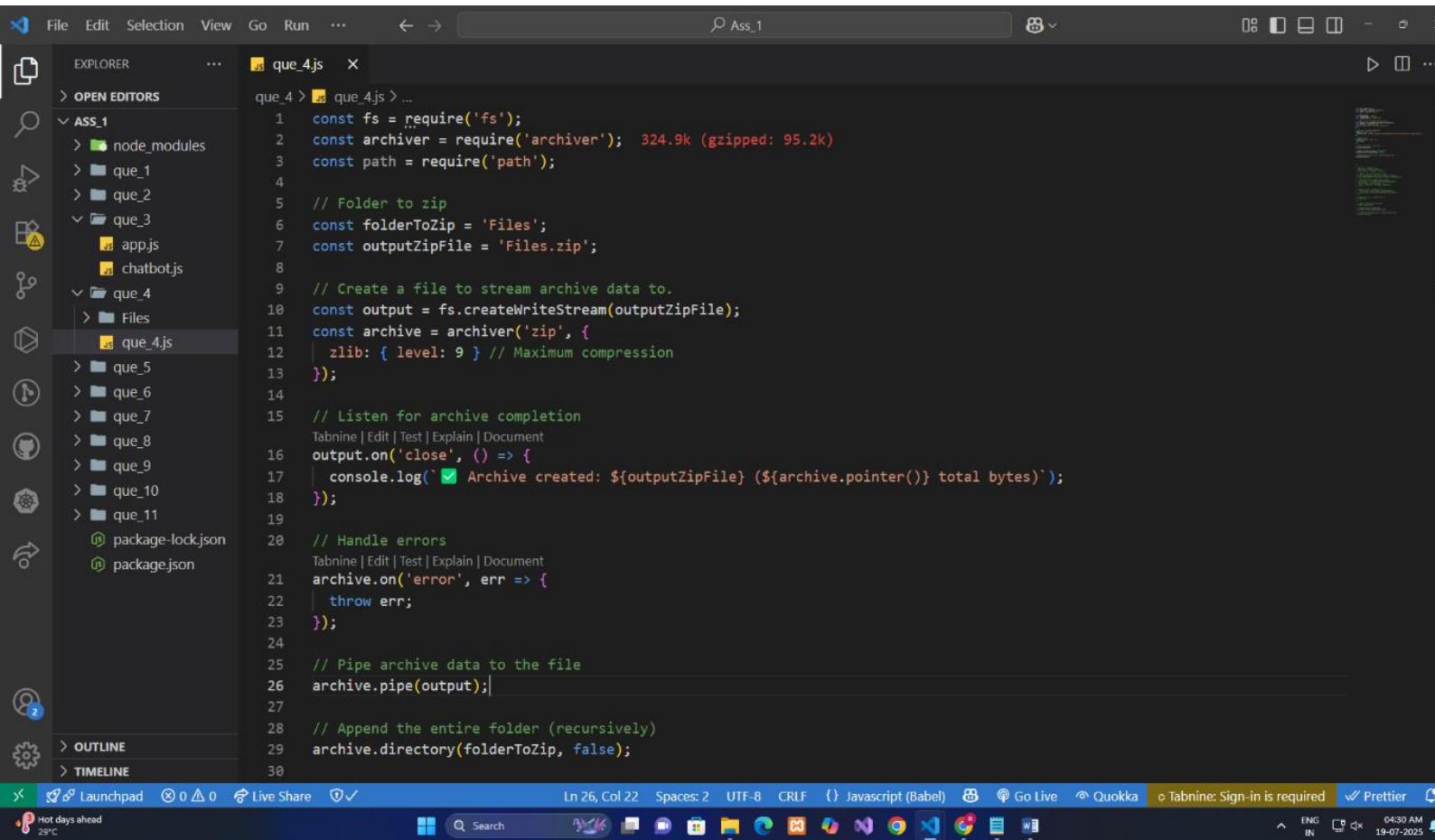
```
que_3 > chatbot.js > ⓘ chatbotReply > ⓘ chatbotReply
que_3 > chatbot.js > ⓘ chatbotReply > ⓘ chatbotReply
1 module.exports.chatbotReply=function(msg)
2 {
3   const bot={
4     age:20,
5     name:'Manya',
6     University:'VSGU',
7     Country:'India'
8   };
9
10  const message=msg.toLowerCase().trim();
11
12  if(message.includes("Hi") || message.includes("Hello") || message.includes("welcome")){
13    return `Hello ! I am ${bot.name}. How can I assist you today ?`;
14  }
15  if(message.includes("Your age")|| message.includes("How Old")|| message.includes("Age")){
16    return `I am ${bot.age} years old.`;
17  }
18  if(message.includes("how")&& message.includes("are")&& message.includes("you")){
19    return `I'm doing great,Thank you`;
20  }
21  if(message.includes("Where")&& message.includes("live")||message.includes("from")){
22    return `I live in ${bot.Country}`;
23  }
24  if(message.includes("University")||message.includes("Study")){
25    return `I studied at ${bot.University}`;
26  }
27  if(message.includes("Your")||message.includes("Name")){
28    return `My name is ${bot.name}`;
29  }
30  if(message ==='' || message.length<2){
31    return "Please say something so I can help you!";
32  }
33  return "Sorry, I didn't quite get that. Could you try asking differently?";
34
35
36
37
38
39
40
41
42 }
```

The `app.js` tab is also visible in the background. The bottom status bar shows the weather as 29°C Mostly cloudy and the date/time as 04:26 AM 19-07-2025.

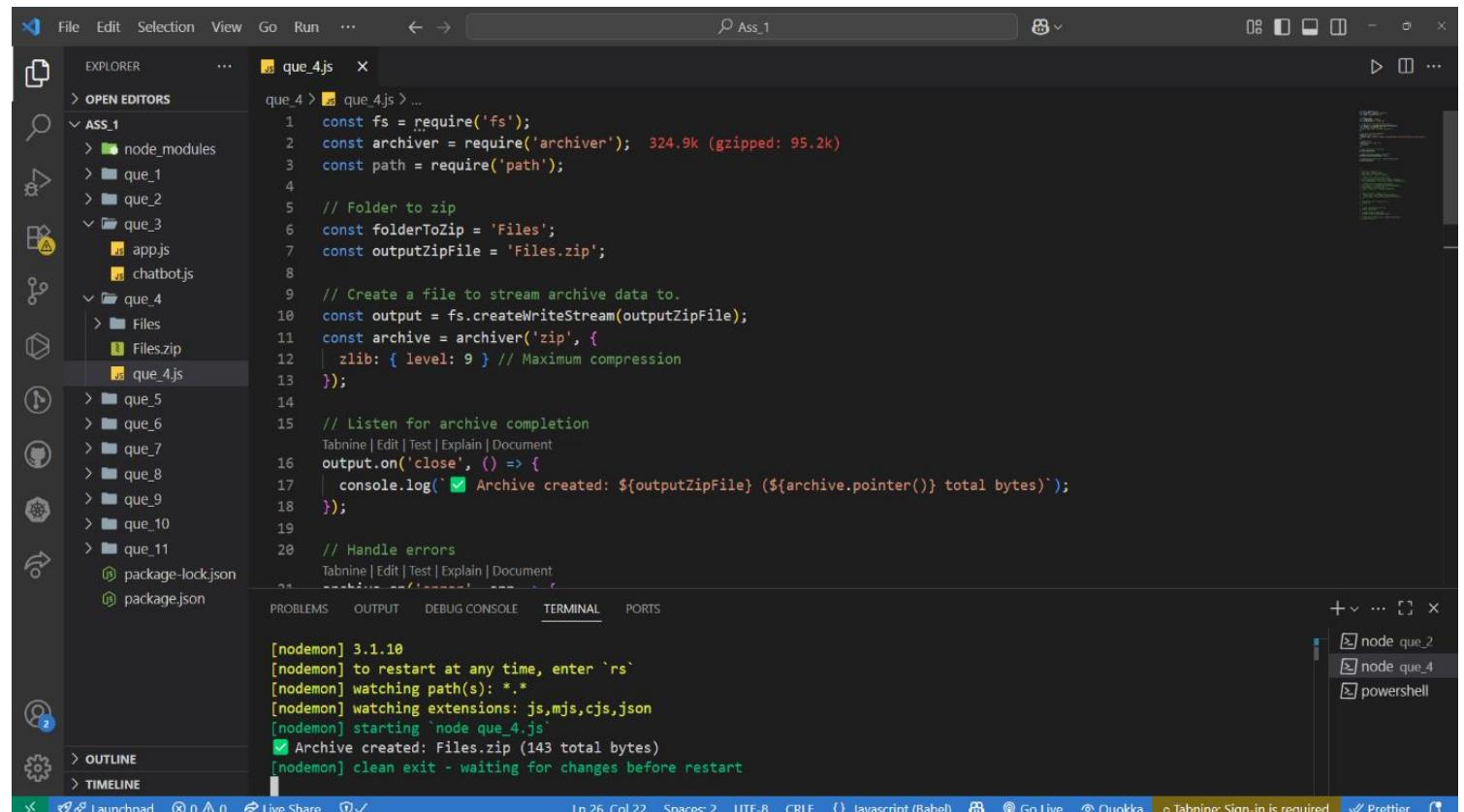
The screenshot shows the Microsoft Visual Studio Code interface with the following details:

- File Explorer:** Shows the project structure with files like `chatbot.js`, `app.js`, `que1.js`, `que2.js`, `que3.js`, `que4.js`, `que5.js`, `que6.js`, `que7.js`, `que8.js`, `que9.js`, `que10.js`, `que11.js`, `package-lock.json`, and `package.json`.
- Code Editor:** Displays the `chatbot.js` file content, which is a Domain-Specific Chatbot application. It uses readline to read input from the user and process.stdout to print responses. It handles user input for age, location, and exit.
- Terminal:** Shows the command-line output of running the application. The terminal window title is "PS B:\...\VSCode\Stack\Ass\_1\que3". The output shows the bot's welcome message, asking for age and location, and responding to an exit command.
- Bottom Status Bar:** Includes icons for search, file operations, and system status (language: ENG, date: 19-07-2025).

# Que-4



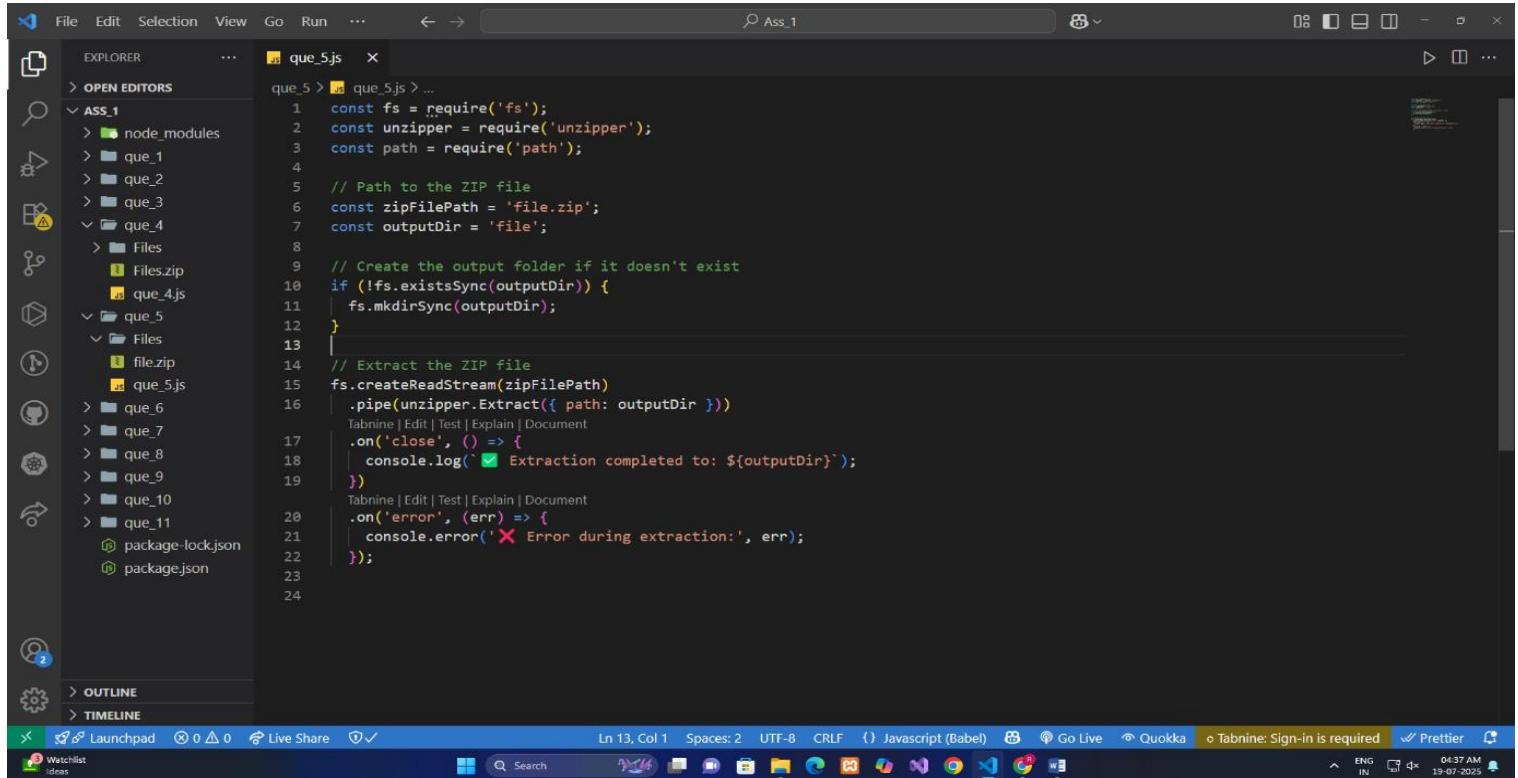
```
que_4 > que_4.js > ...
1 const fs = require('fs');
2 const archiver = require('archiver'); 324.9k (gzipped: 95.2k)
3 const path = require('path');
4
5 // Folder to zip
6 const folderToZip = 'Files';
7 const outputZipFile = 'Files.zip';
8
9 // Create a file to stream archive data to.
10 const output = fs.createWriteStream(outputZipFile);
11 const archive = archiver('zip', {
12 | zlib: { level: 9 } // Maximum compression
13 });
14
15 // Listen for archive completion
16 Tabnine | Edit | Test | Explain | Document
17 output.on('close', () => {
18 | console.log(`Archive created: ${outputZipFile} (${archive.pointer()} total bytes)`);
19 });
20
21 // Handle errors
22 Tabnine | Edit | Test | Explain | Document
23 archive.on('error', err => {
24 | throw err;
25 });
26
27 // Pipe archive data to the file
28 archive.pipe(output);
29
30 // Append the entire folder (recursively)
31 archive.directory(folderToZip, false);
```



```
que_4 > que_4.js > ...
1 const fs = require('fs');
2 const archiver = require('archiver'); 324.9k (gzipped: 95.2k)
3 const path = require('path');
4
5 // Folder to zip
6 const folderToZip = 'Files';
7 const outputZipFile = 'Files.zip';
8
9 // Create a file to stream archive data to.
10 const output = fs.createWriteStream(outputZipFile);
11 const archive = archiver('zip', {
12 | zlib: { level: 9 } // Maximum compression
13 });
14
15 // Listen for archive completion
16 Tabnine | Edit | Test | Explain | Document
17 output.on('close', () => {
18 | console.log(`Archive created: ${outputZipFile} (${archive.pointer()} total bytes)`);
19 });
20
21 // Handle errors
22 Tabnine | Edit | Test | Explain | Document
23 archive.on('error', err => {
24 | throw err;
25 });
26
27 // Pipe archive data to the file
28 archive.pipe(output);
29
30 // Append the entire folder (recursively)
31 archive.directory(folderToZip, false);
```

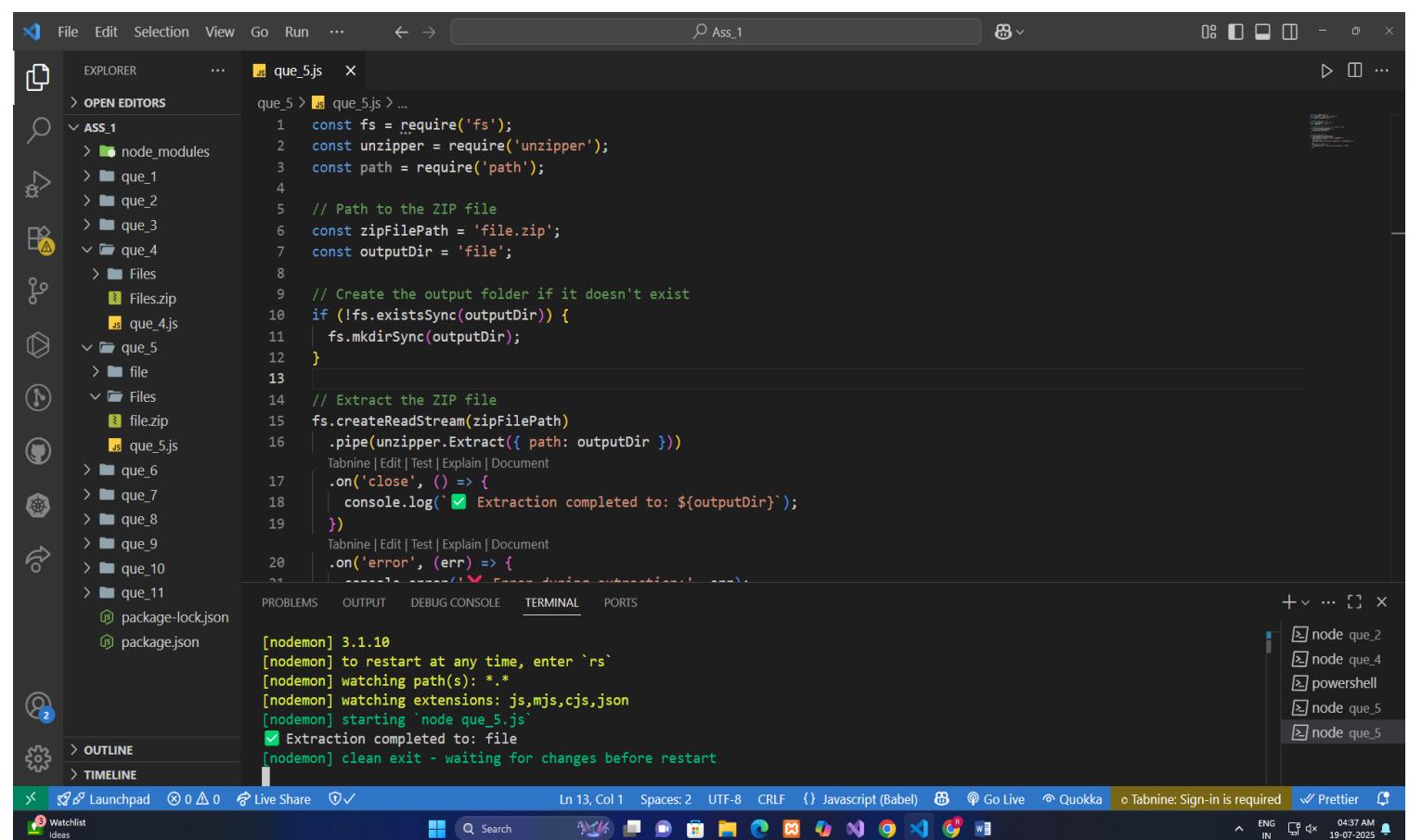
[nodemon] 3.1.10  
[nodemon] to restart at any time, enter `rs`  
[nodemon] watching path(s): \*.\*  
[nodemon] watching extensions: js,mjs,cjs,json  
[nodemon] starting `node que\_4.js`  
Archive created: Files.zip (143 total bytes)  
[nodemon] clean exit - waiting for changes before restart

# Que-5



```
que_5 > que_5.js > ...
1 const fs = require('fs');
2 const unzipper = require('unzipper');
3 const path = require('path');
4
5 // Path to the ZIP file
6 const zipFilePath = 'file.zip';
7 const outputDir = 'file';
8
9 // Create the output folder if it doesn't exist
10 if (!fs.existsSync(outputDir)) {
11   fs.mkdirSync(outputDir);
12 }
13
14 // Extract the ZIP file
15 fs.createReadStream(zipFilePath)
16   .pipe(unzipper.Extract({ path: outputDir }));
17   .on('close', () => {
18     console.log(` Extraction completed to: ${outputDir}`);
19   })
20   .on('error', (err) => {
21     console.error(` Error during extraction: ${err}`);
22   });
23
24
```

The screenshot shows the Visual Studio Code interface with the code for que\_5.js. The code uses the fs and unzipper modules to extract a ZIP file into a specified directory. It includes error handling for file creation and extraction.



```
que_5 > que_5.js > ...
1 const fs = require('fs');
2 const unzipper = require('unzipper');
3 const path = require('path');
4
5 // Path to the ZIP file
6 const zipFilePath = 'file.zip';
7 const outputDir = 'file';
8
9 // Create the output folder if it doesn't exist
10 if (!fs.existsSync(outputDir)) {
11   fs.mkdirSync(outputDir);
12 }
13
14 // Extract the ZIP file
15 fs.createReadStream(zipFilePath)
16   .pipe(unzipper.Extract({ path: outputDir }));
17   .on('close', () => {
18     console.log(` Extraction completed to: ${outputDir}`);
19   })
20   .on('error', (err) => {
21     console.error(` Error during extraction: ${err}`);
22   });
23
24
```

The screenshot shows the Visual Studio Code interface with the code for que\_5.js. The terminal window at the bottom shows the execution of the script using nodemon. The output indicates that the ZIP file was successfully extracted to the specified directory.

# Que-6

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a project structure under "ASS\_1". The "que\_6" folder contains "que\_6.js", "File.txt", and "que\_6.json". Other folders like "que\_1" through "que\_11" are also present.
- Code Editor:** The active file is "que\_6.js". The code is as follows:

```
que_6 > que_6.js > deleteFile
1 const fs = require('fs');
2 const util = require('util');
3
4 // Promisify fs.unlink
5 const unlinkAsync = util.promisify(fs.unlink);
6
7 // Path to the file you want to delete
8 const filePath = 'File.txt'; // replace with your file name
9
10 // Async function to delete the file
11 async function deleteFile() {
12     try {
13         await unlinkAsync(filePath);
14         console.log(`✓ File delete
15 deleted file: ${filePath}`);
16     } catch (err) {
17         console.error(`✗ Error deleting file: ${err.message}`);
18     }
19 }
20
21 // Call the function
22 deleteFile();
```

- Bottom Status Bar:** Shows "Ln 17, Col 33" and "Javascript (Babel)".
- System Tray:** Shows weather as "Mostly cloudy" and date/time as "19-07-2025 04:39 AM".

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Same project structure as the first screenshot.
- Code Editor:** The active file is "que\_6.js". The code is identical to the one in the first screenshot.
- Terminal:** Shows the output of running the script with nodemon:

```
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching path(s): ***!
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node que_6.js'
✓ File delete
    deleted file: File.txt
[nodemon] clean exit - waiting for changes before restart
```

- Bottom Status Bar:** Shows "Ln 17, Col 33" and "Javascript (Babel)".

# Que-7

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a folder structure for "ASS.1" containing "que\_1", "que\_2", "que\_3", "que\_4", "que\_5", "que\_6", "que\_7", "que\_8", "que\_9", "que\_10", "que\_11", "package-lock.json", and "package.json".
- Code Editor:** Displays a file named "que\_7.js" with the following code:

```
// npm install node-fetch@2 install this
const fetch = require('node-fetch'); 658 (gzipped: 353)

async function fetchGoogle() {
    const response = await fetch('https://www.google.com');
    const data = await response.text(); // Get response as text (HTML)
    console.log(data); // Print the HTML of Google homepage
    console.log("\nYour Google page Fetch Successfully");
} catch (error) {
    console.error('Error fetching Google page:', error);
}

fetchGoogle();
```
- Terminal:** Shows the output of the Node.js process:

```
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): ***!
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting  node que_6.js
✓ File delete
      deleted file: File.txt
[nodemon] clean exit - waiting for changes before restart
```
- Bottom Status Bar:** Includes icons for Launchpad, Live Share, Go Live, Quokka, Prettier, and system status like weather and battery.

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a folder structure for "ASS.1" containing "que\_1", "que\_2", "que\_3", "que\_4", "que\_5", "que\_6", "que\_7", "que\_8", "que\_9", "que\_10", "que\_11", "package-lock.json", and "package.json".
- Code Editor:** Displays a file named "que\_7.js" with the following code:

```
// npm install node-fetch@2 install this
const fetch = require('node-fetch'); 658 (gzipped: 353)

async function fetchGoogle() {
    try {
        const response = await fetch('https://www.google.com');
        const data = await response.text(); // Get response as text (HTML)
        console.log(data); // Print the HTML of Google homepage
        console.log("\nYour Google page Fetch Successfully");
    } catch (error) {
        console.error('Error fetching Google page:', error);
    }
}

fetchGoogle();
```
- Terminal:** Shows the output of the Node.js process:

```
\x22I\x0026#39;m Feeling Lucky\x22,\x22lml\x22:\x22Learn more\x22,\x22psrc\x22:\x22This search was removed from your \u003c href\x3d\x22history\x22\x22Web History\x22\x22c/a\x22\x22psrl\x22:\x22Remove\x22,\x22bit\x22:\x22Search by image\x22,\x22srch\x22:\x22Google Search\x22,\x22ovn\x22:\x22:\{\},\x22pq\x22:\x22\x22,\x22rfs\x22:[],\x22stok\x22:\x22YSiQ2Tf5XllAIaQk2yEXCIObSdw\x22}\';google.pmc=JSON.parse(pmc);\});</script></body></html>
```

Your Google page Fetch Successfully

```
[nodemon] clean exit - waiting for changes before restart
```
- Bottom Status Bar:** Includes icons for Launchpad, Live Share, Go Live, Quokka, Prettier, and system status like weather and battery.

# Que-8

Screenshot of VS Code showing the file `app.js` in the editor. The code is a Node.js application using Express to listen on port 3002 and log a message upon startup.

```
const express = require('express');
const app = express();
const port = 3002; // Your changed port

app.get('/', (req, res) => {
  res.send('Problem 8 Server Running on Port 3002!');
});

app.listen(port, () => {
  console.log(`Server started at http://localhost:${port}`);
});
```

The terminal output shows the server starting successfully:

```
Server started at http://localhost:3002
[nodemon] clean exit - waiting for changes before restart
```

The status bar indicates it's 28°C and mostly cloudy.

Screenshot of VS Code showing the file `server.js` in the editor. The code is a Node.js application using the `http` module to listen on port 3002 and log a message upon startup.

```
const http = require('http');

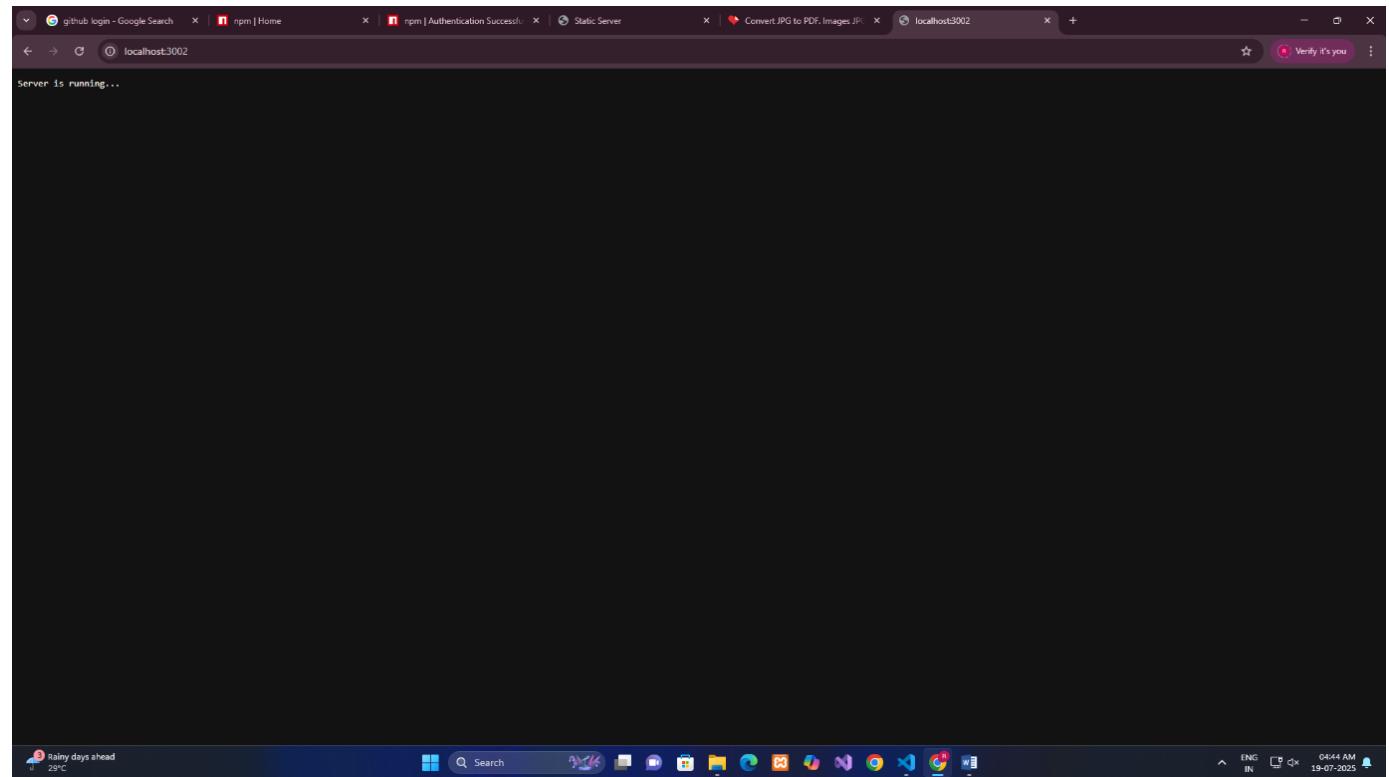
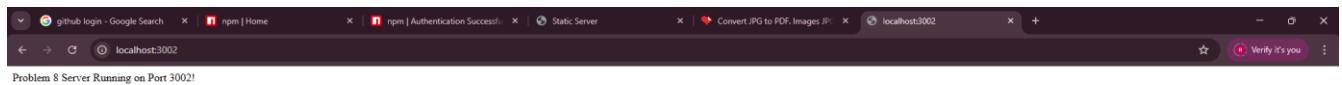
const server = http.createServer((req, res) => {
  res.end('Server is running...');
});

server.listen(3002, () => {
  console.log(`Server started on http://localhost:3002`);
});
```

The terminal output shows the server starting successfully:

```
Server started on http://localhost:3002
[nodemon] clean exit - waiting for changes before restart
```

A screenshot tool window is open in the bottom right corner, showing the current view of the VS Code interface.



# Que-9

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a tree view of files in the 'ASS\_1' folder. The 'que\_9.js' file is selected.
- Code Editor:** Displays the content of 'que\_9.js'. The code demonstrates various Node.js fs module operations: writing to 'example.txt', appending content, reading content, renaming the file, and deleting it.
- Bottom Status Bar:** Shows file path (que\_9.js), line 26, column 32, spaces: 4, encoding: UTF-8, and tabs: Javascript (Babel).
- Taskbar:** Includes icons for Launchpad, Live Share, Quokka, and Prettier.
- System Tray:** Shows system status including network connection, battery level, and date/time (19-07-2025).

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a tree view of files in the 'ASS\_1' folder. The 'que\_9.js' file is selected.
- Code Editor:** Displays the content of 'que\_9.js'.
- Terminal:** Shows the command line output for running the script:

```
PS B:\sem7_123\Ass_1> cd que_9
PS B:\sem7_123\Ass_1\que_9> nodemon que_9
[nodemon] 3.1.10
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node que_9.js`

File created successfully.
Content appended successfully.
File content:
Hello, Maniya! This is a Node.js FS module demo.
Appending new content.
File renamed successfully.
File deleted successfully.

[nodemon] clean exit - waiting for changes before restart
```
- Output Panel:** Shows logs for other Node.js scripts in the folder.

# Que-10

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Search Bar:** Ass\_1
- Explorer:** Shows a tree view of files and folders under ASS\_1, including node\_modules, que\_1 through que\_11, que\_9.js, and package-lock.json, package.json.
- Editor:** The main editor tab is titled "que\_10.js". The code content is as follows:

```
que_10 > que_10.js > ...
1 // Prints the current directory name
2 console.log("Current Directory:", __dirname);
3
4 // Prints the current file name with full path
5 console.log("Current File Name:", __filename);
6
7 // Runs the function after 2 seconds
8 setTimeout(() => {
9   console.log("This message is shown after 2 seconds.");
10 }, 2000);
11
12 // Runs the function every 1 second, stops after 3 times
13 let counter = 0;
14 const interval = setInterval(() => {
15   console.log("Interval count:", ++counter);
16   if (counter === 3) {
17     clearInterval(interval);
18     console.log("Interval cleared after 3 times.");
19   }
20 }, 1000);
21
22 // Prints a simple message
23 console.log("This is a global console log message.");
24
25 // Prints information about the current Node.js process
26 console.log("Process Platform:", process.platform);
27 console.log("Process Version:", process.version);
28
```

- Bottom Status Bar:** In 20, Col 10, Spaces: 4, UTF-8, CRLF, Javascript (Babel), Go Live, Quokka, Tabnine: Sign-in is required, Prettier.
- Taskbar:** Finance headline, India reported 1...
- System Tray:** ENG IN, 0450 AM, 19-07-2025, bell icon.

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Search Bar:** Ass\_1
- Explorer:** Same as the first screenshot.
- Terminal:** The terminal tab is active, showing the output of running the script:

```
[nodemon] 3.1.10
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): ***!
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting `node que_10.js`
Current Directory: B:\sem7_123\Ass_1\que_10
Current File Name: B:\sem7_123\Ass_1\que_10\que_10.js
This is a global console log message.
Process Platform: win32
Process Version: v18.18.2
Interval count: 1
This message is shown after 2 seconds.
Interval count: 2
Interval count: 3
Interval cleared after 3 times.
```

- Output Panel:** Shows the execution logs from nodemon.
- Right Sidebar:** Shows a list of recent Node.js files: que\_2, que\_4, powershell, que\_5, que\_5, que\_8, que\_9, que\_10.

# Que-11

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a project structure under "ASS\_1". The "que\_11" folder contains "index.js" and "que\_11.js". Other folders like "que\_1" through "que\_10" are also present.
- Editor:** The "que\_11" editor tab is active, displaying the following code:

```
function add(a, b) {
    return a + b;
}

function subtract(a, b) {
    return a - b;
}

module.exports = { add, subtract };
```

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Similar to the first screenshot, showing the "que\_11" folder containing "index.js" and "que\_11.js".
- Terminal:** The terminal tab is active, showing the command line output of running the code:

```
PS B:\sem7_123\Ass_1> cd que_11
PS B:\sem7_123\Ass_1\que_11> nodemon que_11
[nodemon] 3.1.10
[nodemon] to restart at any time, enter 'rs'
[nodemon] watching path(s): ***!
[nodemon] watching extensions: js,mjs,cjs,json
[nodemon] starting 'node que_11 index.js'
[nodemon] clean exit - waiting for changes before restart
8
2
```