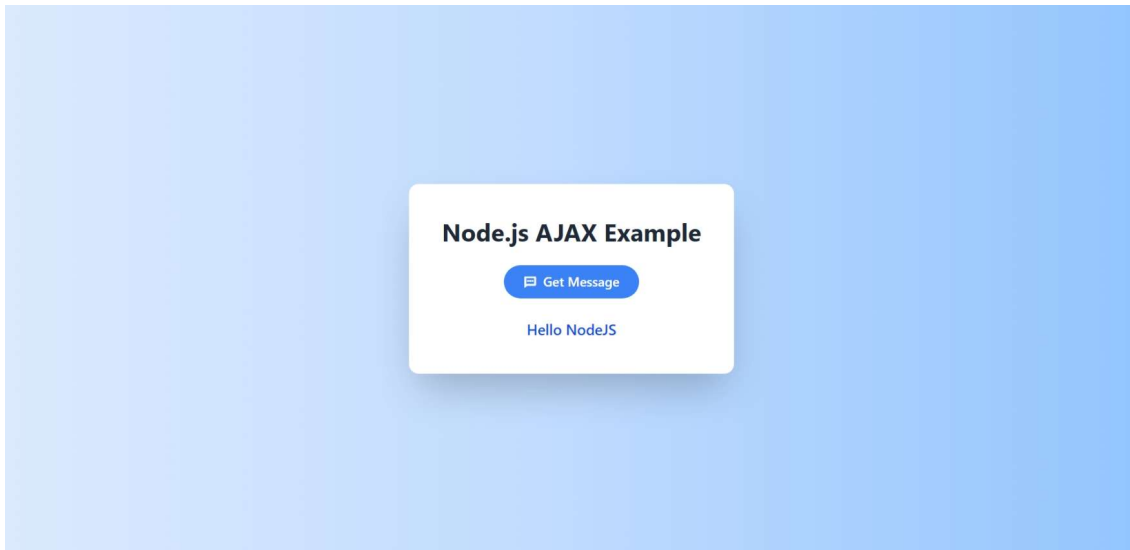
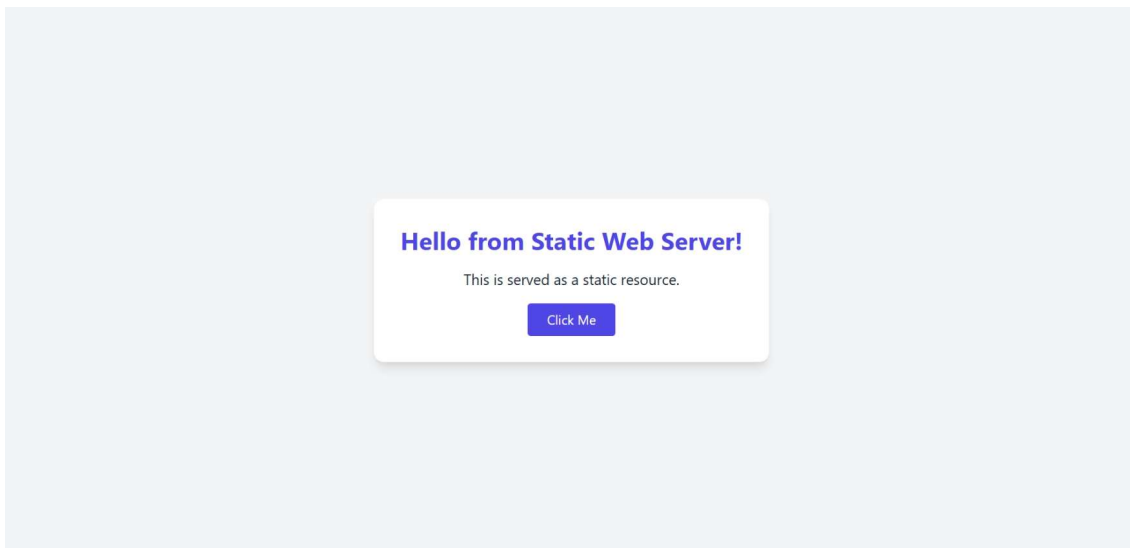


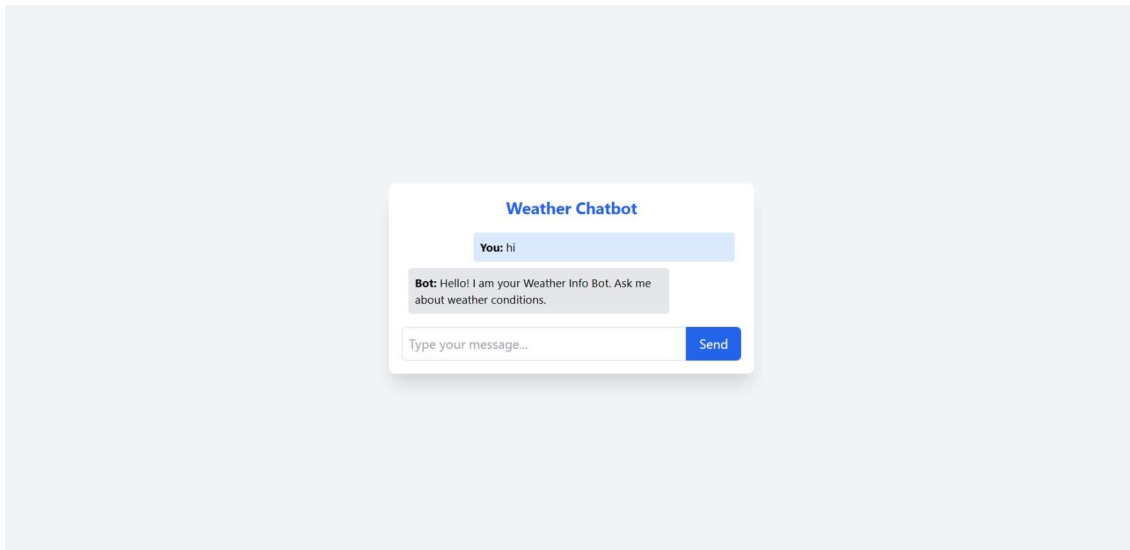
Q1 :



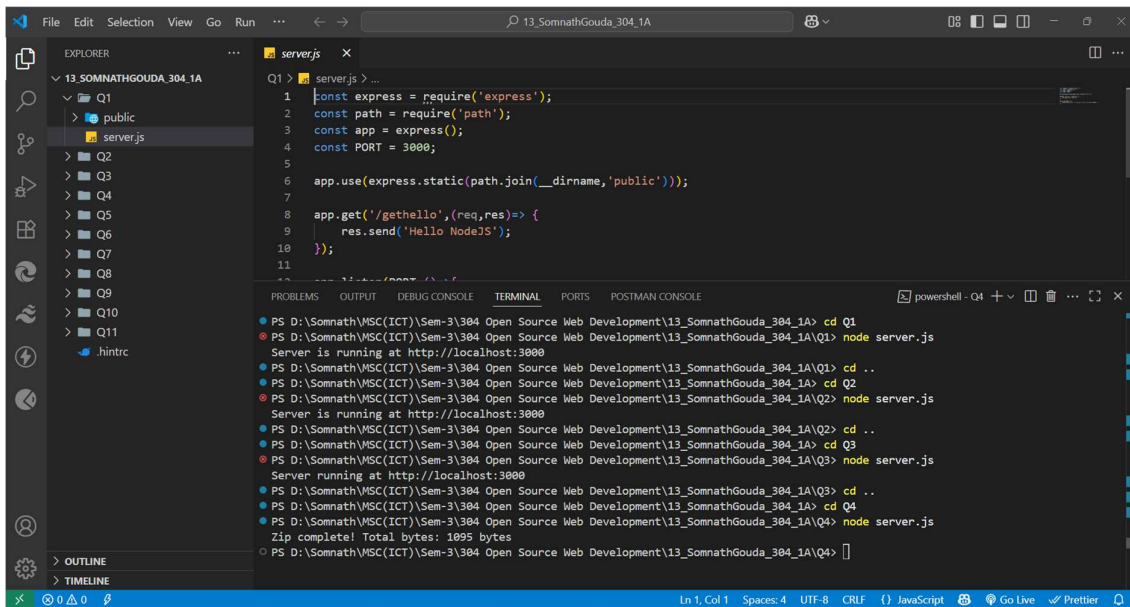
Q2 :



Q3 :



Q4 :



Q5:

The screenshot shows the VS Code editor with the Explorer sidebar on the left displaying the project structure for '13\_SOMNATHGOUDA\_304\_1A'. The 'server.js' file is selected. The main editor shows the following JavaScript code:

```
1 const fs = require('fs')
2 const unzip = require('unzipper')
3
4 fs.createReadStream('MyData.zip').pipe(unzip.Extract({ path: 'Data' })).on('close', () => console.log('File e
5 )
```

The TERMINAL panel at the bottom shows the command prompt output:

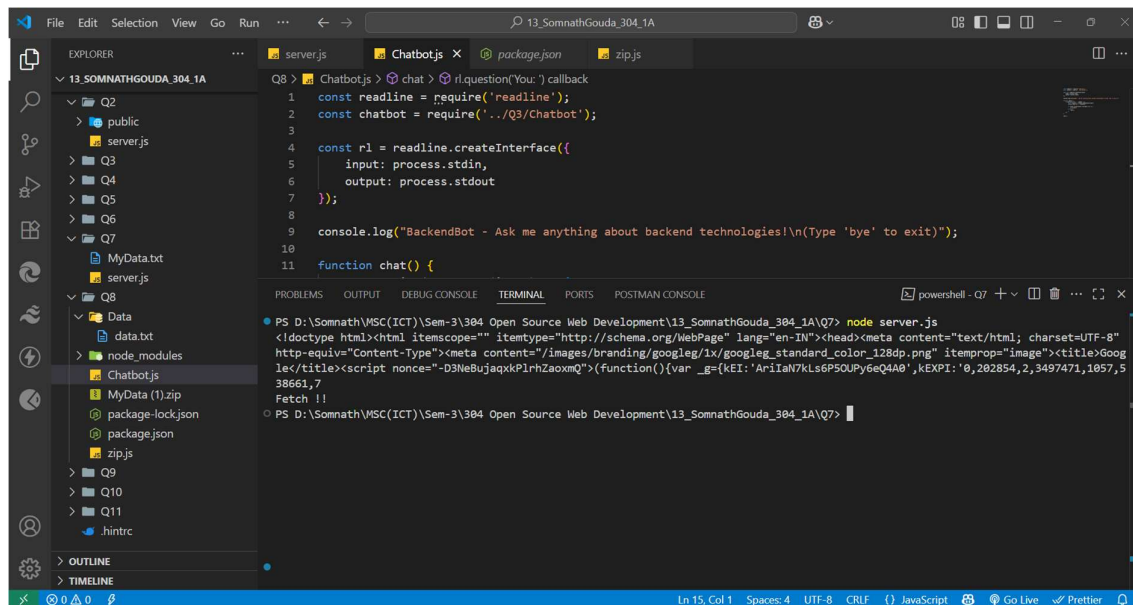
```
PS D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q5> node server.js
File extracted.
```

Q6:

The screenshot shows the VS Code editor with the Explorer sidebar on the left displaying the project structure for '13\_SOMNATHGOUDA\_304\_1A'. The 'Chatbot.js' file is selected. The main editor shows the following JavaScript code:

```
1 const readline = require('readline');
2 const chatbot = require('./Q3/Chatbot');
3
4 const rl = readline.createInterface({
5   input: process.stdin,
6   output: process.stdout
7 });
8
9 console.log("BackendBot - Ask me anything about backend technologies!\n(Type 'bye' to exit)");
10
11 function chat() {
12
13   at emitKeys.next (<anonymous>)
14   at ReadStream.onData (node:internal/readline/emitKeypressEvents:64:36)
15   at ReadStream.emit (node:events:518:28)
16
17 Node.js v22.17.1
18 PS D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q6> cd ..
19 PS D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A> cd Q6
20 PS D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q6> node server.js
File not found:- Error: ENOENT: no such file or directory, unlink 'D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q6\Data\data.txt'
21 PS D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q6>
```

Q7:

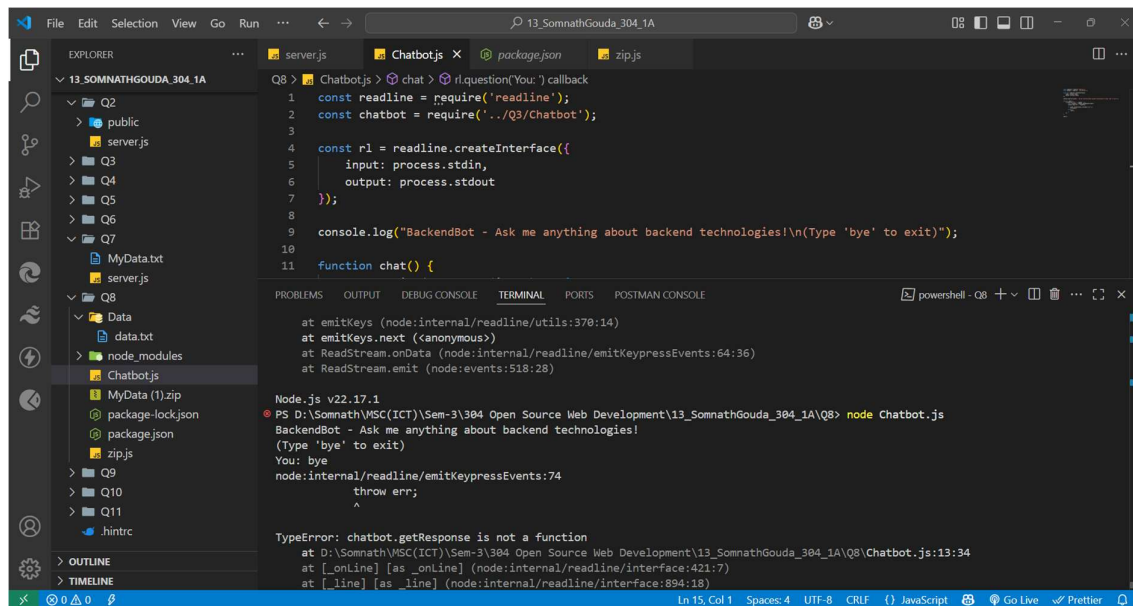


The screenshot shows the VS Code editor with the file explorer on the left displaying the project structure for '13\_SomnathGouda\_304\_1A'. The file 'Chatbot.js' is selected. The editor displays the following code:

```
Q8 > Chatbotjs > chat > r.question('You:') callback
1 const readline = require('readline');
2 const chatbot = require('../Q3/Chatbot');
3
4 const rl = readline.createInterface({
5   input: process.stdin,
6   output: process.stdout
7 });
8
9 console.log("BackendBot - Ask me anything about backend technologies!\n(Type 'bye' to exit)");
10
11 function chat() {
```

The terminal at the bottom shows the command 'node server.js' being executed, resulting in the output: 'BackendBot - Ask me anything about backend technologies!\n(Type 'bye' to exit)'.

Q8:



The screenshot shows the VS Code editor with the file explorer on the left displaying the project structure for '13\_SomnathGouda\_304\_1A'. The file 'Chatbot.js' is selected. The editor displays the same code as in the previous screenshot. The terminal at the bottom shows the command 'node Chatbot.js' being executed, resulting in the output: 'BackendBot - Ask me anything about backend technologies!\n(Type 'bye' to exit)'.

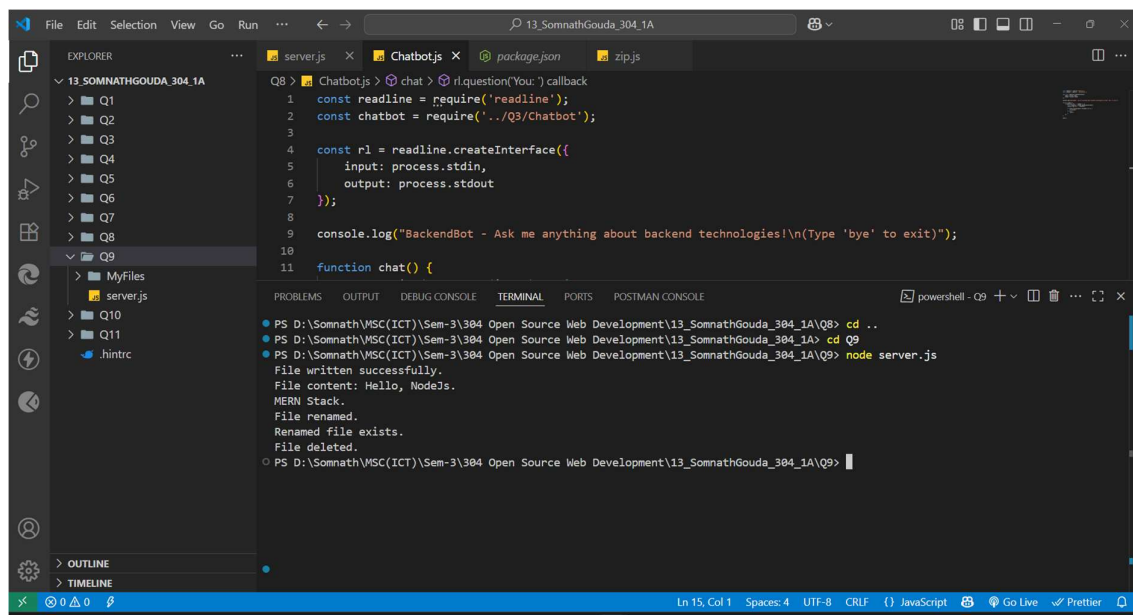
Following the initial output, the terminal shows an error message:

```
Node.js v22.17.1
at emitKeys (node:internal/readline/utils:370:14)
at emitKeys.next ((anonymous))
at ReadStream.onData (node:internal/readline/emitKeypressEvents:64:36)
at ReadStream.emit (node:events:518:28)

Node.js v22.17.1
PS D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q8> node Chatbot.js
BackendBot - Ask me anything about backend technologies!
(Type 'bye' to exit)
You: bye
node:internal/readline/emitKeypressEvents:74
    throw err;
    ^

TypeError: chatbot.getResponse is not a function
    at D:\Somnath\MSCT\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q8\Chatbot.js:13:34
    at [._on_line] [as _on_line] (node:internal/readline/interface:421:7)
    at [._line] [as _line] (node:internal/readline/interface:894:18)
```

Q9:



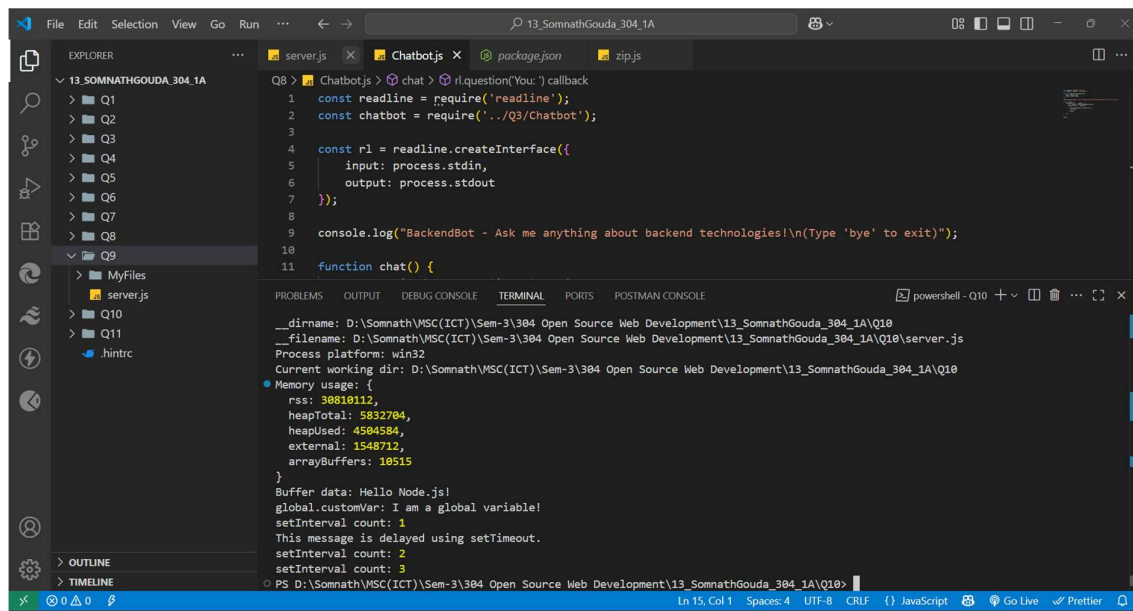
The screenshot shows the VS Code editor with a file explorer on the left displaying a project structure for '13\_SOMNATHGOUDA\_304\_1A'. The main editor window shows a file named 'Chatbot.js' with the following JavaScript code:

```
1 const readline = require('readline');
2 const chatbot = require('../Q3/Chatbot');
3
4 const rl = readline.createInterface({
5   input: process.stdin,
6   output: process.stdout
7 });
8
9 console.log("BackendBot - Ask me anything about backend technologies!\n(Type 'bye' to exit)");
10
11 function chat() {
```

The terminal at the bottom shows the execution of the script. The user has run 'cd ..' and 'cd Q9', then 'node server.js'. The output of the script is:

```
File written successfully.
File content: Hello, NodeJs.
MERN Stack.
File renamed.
Renamed file exists.
File deleted.
```

Q10:



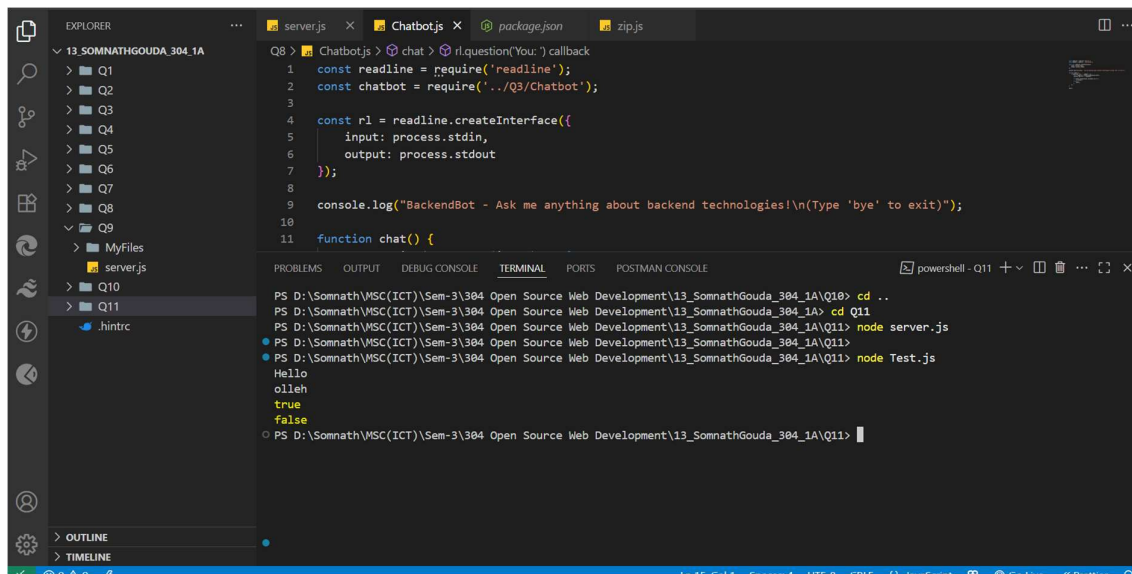
The screenshot shows the same VS Code editor setup as Q9, but the 'Chatbot.js' file now includes additional console.log statements within the chat function:

```
11 function chat() {
12   console.log("BackendBot - Ask me anything about backend technologies!\n(Type 'bye' to exit)");
13   console.log("Buffer data: Hello Node.js!");
14   console.log("global.customVar: I am a global variable!");
15   console.log("setInterval count: 1");
16   console.log("This message is delayed using setTimeout.");
17   console.log("setInterval count: 2");
18   console.log("setInterval count: 3");
19 }
```

The terminal output shows the execution of the script, displaying the memory usage and the output of the console.log statements:

```
__dirname: D:\Somnath\WS(ICT)\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q10
__filename: D:\Somnath\WS(ICT)\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q10\server.js
Process platform: win32
Current working dir: D:\Somnath\WS(ICT)\Sem-3\304 Open Source Web Development\13_SomnathGouda_304_1A\Q10
Memory usage: {
  rss: 30810112,
  heapTotal: 5832704,
  heapUsed: 4504584,
  external: 1548712,
  arrayBuffers: 10515
}
Buffer data: Hello Node.js!
global.customVar: I am a global variable!
setInterval count: 1
This message is delayed using setTimeout.
setInterval count: 2
setInterval count: 3
```

Q11:



The screenshot shows a Visual Studio Code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project named '13\_SOMNATHGOUDA\_304\_1A' with subfolders Q1 through Q11. The code editor shows a file named 'Chatbot.js' with the following JavaScript code:

```
Q8 > Chatbot.js > chat > rl.question("You: ") callback
1  const readline = require('readline');
2  const chatbot = require('./Q3/Chatbot');
3
4  const rl = readline.createInterface({
5    input: process.stdin,
6    output: process.stdout
7  });
8
9  console.log("BackendBot - Ask me anything about backend technologies!\n(Type 'bye' to exit)");
10
11 function chat() {
```

The terminal at the bottom shows the execution of the script. The prompt is 'PS D:\Somnath\WSC(ICT)\Sem-3\304 Open Source Web Development\13\_SomnathGouda\_304\_1A\Q10> cd ..'. The user enters 'cd Q11'. The prompt changes to 'PS D:\Somnath\WSC(ICT)\Sem-3\304 Open Source Web Development\13\_SomnathGouda\_304\_1A\Q11> node server.js'. The user enters 'Hello'. The output is 'olleh'. The user enters 'true'. The output is 'false'. The prompt returns to 'PS D:\Somnath\WSC(ICT)\Sem-3\304 Open Source Web Development\13\_SomnathGouda\_304\_1A\Q11>'.