

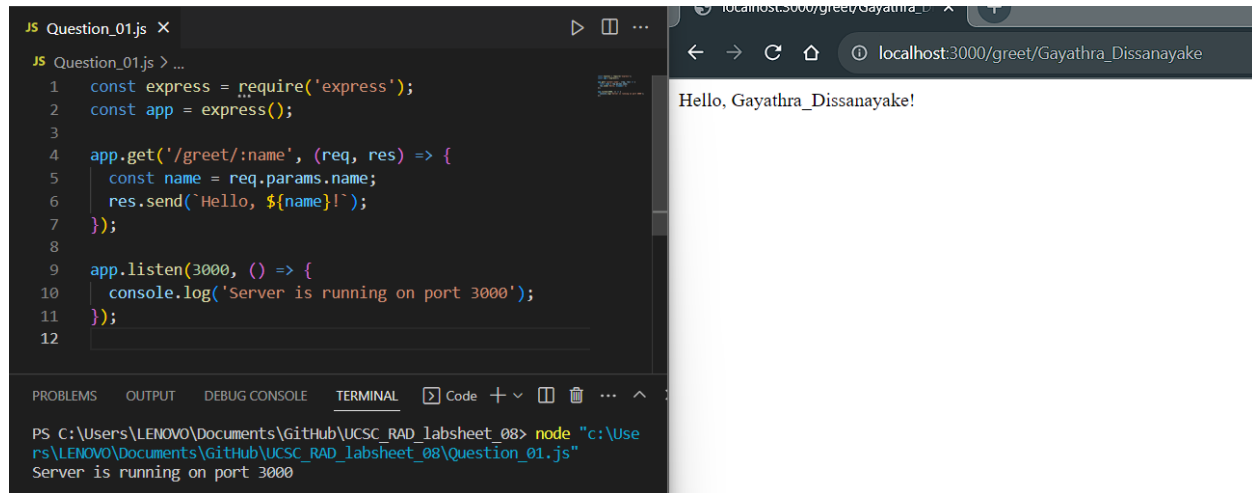
SCS2208 Rapid Application Development

Labsheet 08

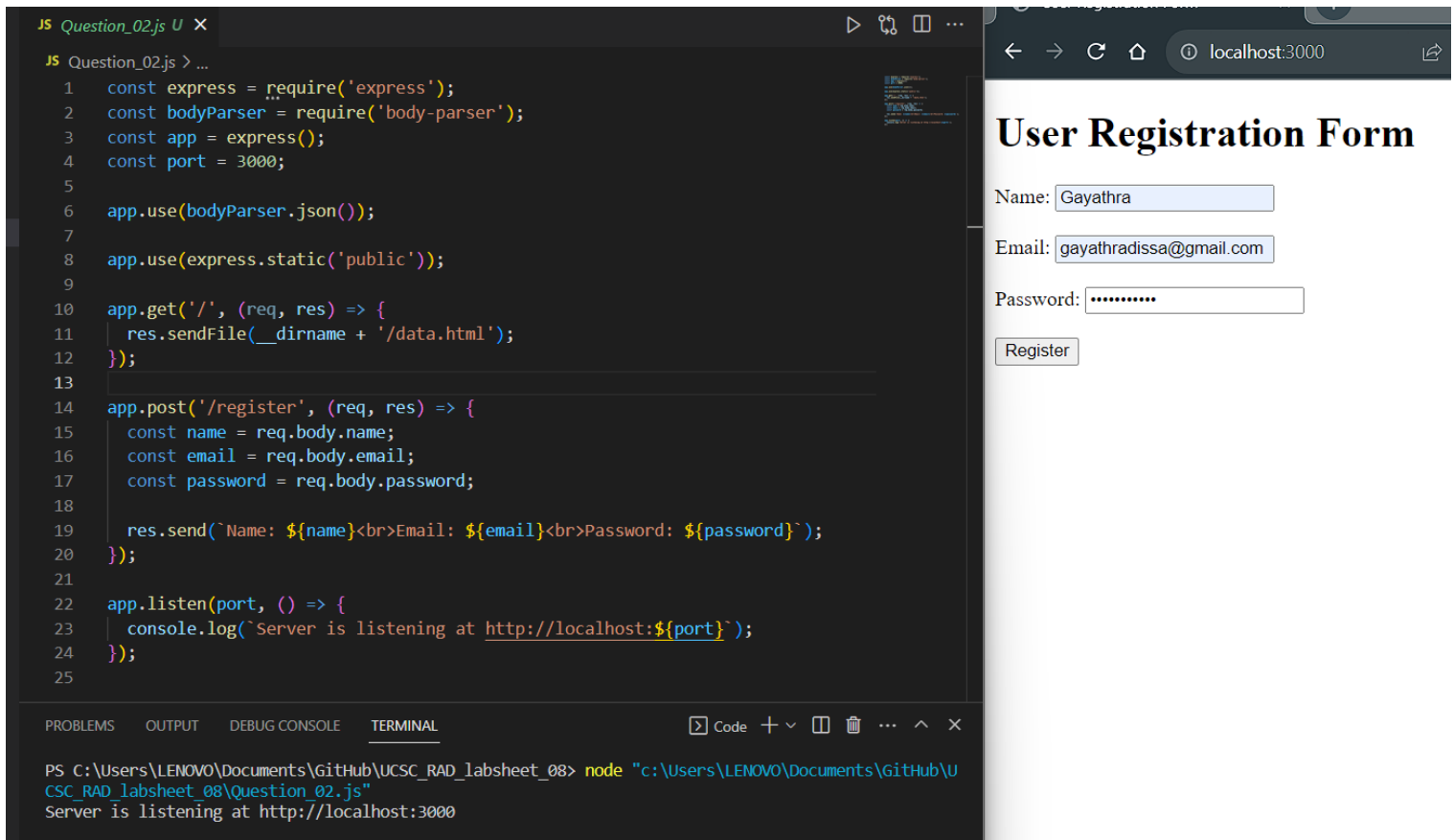
Index number: 21000557

- Github Repository: https://github.com/ItsAeox/UCSC_RAD_labsheet_08
- Screenshots of the code is given below.

1.



2. *Returns as undefined*



3.

The screenshot shows a VS Code editor on the left and a web browser on the right. The VS Code editor has a file named 'Question_03.js' open, containing the following JavaScript code:

```
1  const express = require('express');
2  const app = express();
3
4  const books = [
5    { id: 1, title: 'Book 1' },
6    { id: 2, title: 'Book 2' },
7    { id: 3, title: 'Book 3' }
8  ];
9
10 app.get('/api/books', (req, res) => {
11   res.json(books);
12 });
13
14 const port = 3000;
15 app.listen(port, () => {
16   console.log(`Server is running on port ${port}`);
17 });
18
```

The web browser on the right shows the URL 'localhost:3000/api/books' and the response is a JSON array of book objects: `[{"id":1,"title":"Book 1"}, {"id":2,"title":"Book 2"}, {"id":3,"title":"Book 3"}]`. The VS Code terminal at the bottom shows the command `node "c:\Users\LENOVO\Documents\GitHub\UCSC_RAD_labsheet_08\Question_03.js"` and the output `Server is running on port 3000`.

4.

The screenshot shows a VS Code editor on the left and a web browser on the right. The VS Code editor has a file named 'Question_04.js' open, containing the following JavaScript code:

```
1  const express = require('express');
2  const app = express();
3
4  const validUsername = 'gayathra';
5  const validPassword = 'password123';
6
7  app.get('/authenticate', (req, res) => {
8   const { username, password } = req.query;
9
10   if (username === validUsername && password === validPassword) {
11     res.send(`Welcome, ${username}!`);
12   } else {
13     res.status(401).send('Authentication failed. Invalid credentials');
14   }
15 });
16
17 const PORT = 3000;
18 app.listen(PORT, () => {
19   console.log(`Server is running on port ${PORT}`);
20 });
21
```

The web browser on the right shows the URL 'localhost:3000/authenticate?username=gayathra&password=password123' and the response is 'Welcome, gayathra!'. The VS Code terminal at the bottom shows the command `node "c:\Users\LENOVO\Documents\GitHub\UCSC_RAD_labsheet_08\Question_04.js"` and the output `Server is running on port 3000`.

5.

JS Question_05.js > ...

```
1  const express = require('express');
2  const app = express();
3
4  app.use((req, res, next) => {
5    res.status(404).render('error404');
6  });
7
8  app.use((err, req, res, next) => {
9    console.error(err.stack);
10   res.status(500).render('error500');
11 });
12
13 app.listen(3000, () => {
14   console.log('Server is running on port 3000');
15 });
16
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\LENOVO\Documents\GitHub\UCSC_RAD_labsheet_08> node "c:\
_labsheet_08\Question_05.js"
Server is running on port 3000
```

6.

```
1  const express = require('express');
2  const app = express();
3  const port = 3000;
4
5  app.get('/calculate', (req, res) => {
6    const num1 = parseFloat(req.query.num1);
7    const num2 = parseFloat(req.query.num2);
8    const operation = req.query.operation;
9
10   let result;
11
12   switch (operation) {
13     case 'add':
14       result = num1 + num2;
15       break;
16     case 'subtract':
17       result = num1 - num2;
18       break;
19     case 'multiply':
20       result = num1 * num2;
21       break;
22     case 'divide':
23       if (num2 !== 0) {
24         result = num1 / num2;
25       } else {
26         return res.status(400).json({ error: 'Division by zero is not allowed' });
27       }
28       break;
29     default:
30       return res.status(400).json({ error: 'Invalid operation provided' });
31   }
32
33   res.json({ result });
34 });
35
36 app.listen(port, () => {
37   console.log(`Server is listening at http://localhost:${port}`);
38 });
```

localhost:3000/calculate?num1=4&num2=7&operation=multiply

{"result":28}

localhost:3000/calculate?num1=10&num2=2&operation=subtract

{"result":8}