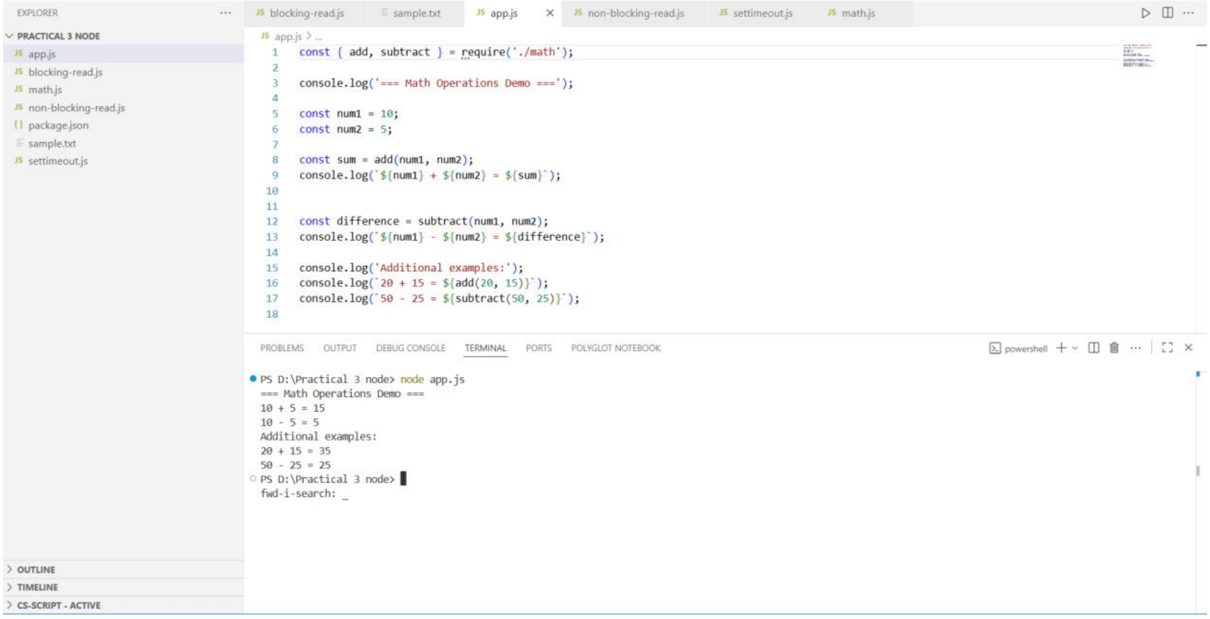
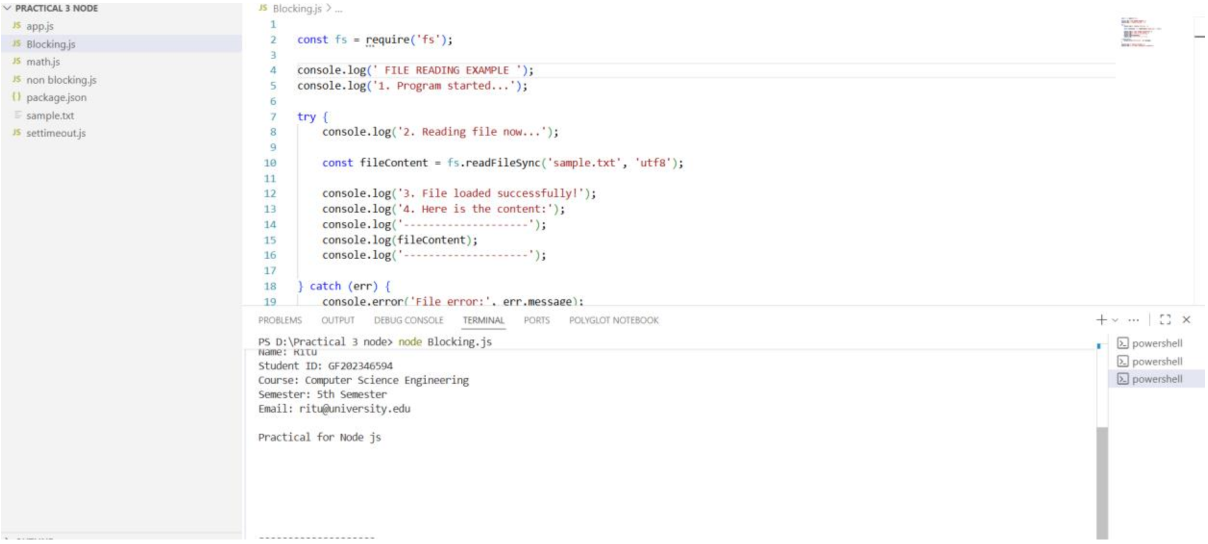
Practical 3-



```javascript
const { add, subtract } = require('./math');

console.log('=== Math Operations Demo ===');

const num1 = 10;
const num2 = 5;

const sum = add(num1, num2);
console.log(`${num1} + ${num2} = ${sum}`);


const difference = subtract(num1, num2);
console.log(`${num1} - ${num2} = ${difference}`);

console.log('Additional examples:');
console.log(`20 + 15 = ${add(20, 15)}`);
console.log(`50 - 25 = ${subtract(50, 25)}`);

```

```
PS D:\Practical 3 node> node app.js
=== Math Operations Demo ===
10 + 5 = 15
10 - 5 = 5
Additional examples:
20 + 15 = 35
50 - 25 = 25
PS D:\Practical 3 node> 
fwd-i-search: _
```



```javascript

const fs = require('fs');

console.log(' FILE READING EXAMPLE ');
console.log('1. Program started...');

try {
    console.log('2. Reading file now...');

    const fileContent = fs.readFileSync('sample.txt', 'utf8');

    console.log('3. File loaded successfully!');
    console.log('4. Here is the content:');
    console.log('--------------------');
    console.log(fileContent);
    console.log('--------------------');

} catch (err) {
    console.error('File error:', err.message);
```

```
PS D:\Practical 3 node> node Blocking.js
Name: Ritu
Student ID: GF202346594
Course: Computer Science Engineering
Semester: 5th Semester
Email: ritu@university.edu

Practical for Node js




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```

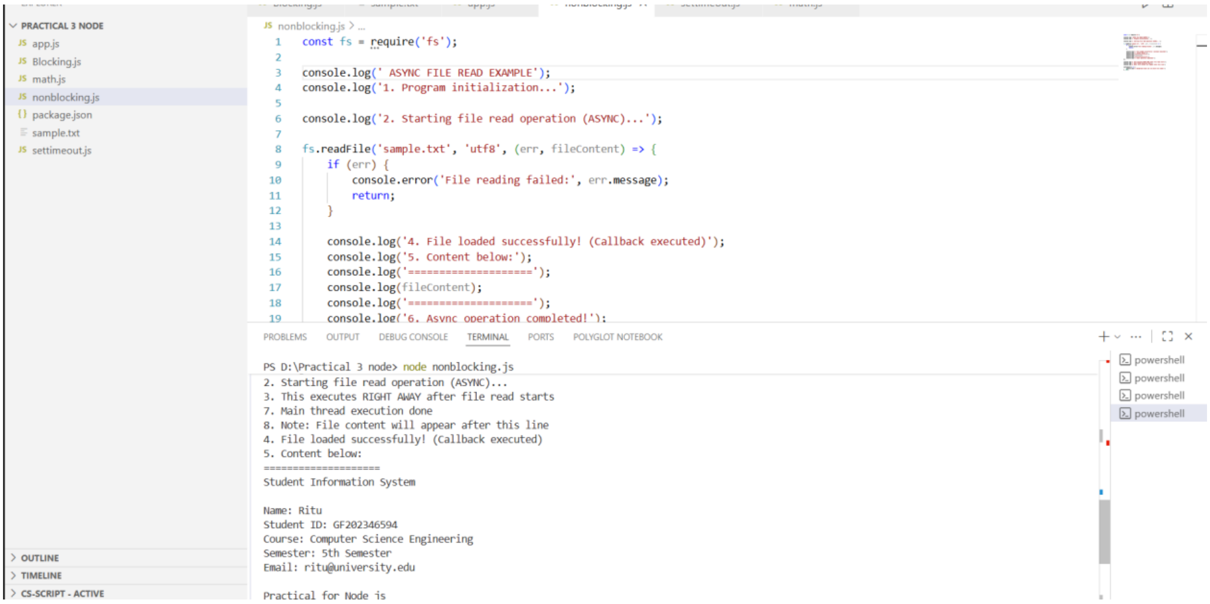

```javascript
const fs = require('fs');

console.log(' ASYNC FILE READ EXAMPLE');
console.log('1. Program initialization...');

console.log('2. Starting file read operation (ASYNC)...');

fs.readFile('sample.txt', 'utf8', (err, fileContent) => {
    if (err) {
        console.error('File reading failed:', err.message);
        return;
    }

    console.log('4. File loaded successfully! (Callback executed)');
    console.log('5. Content below:');
    console.log('===================');
    console.log(fileContent);
    console.log('===================');
    console.log('6. Async operation completed!');
```

```
PS D:\Practical 3 node> node nonblocking.js
2. Starting file read operation (ASYNC)...
3. This executes RIGHT AWAY after file read starts
7. Main thread execution done
8. Note: File content will appear after this line
4. File loaded successfully! (Callback executed)
5. Content below:
===================
Student Information System

Name: Ritu
Student ID: GF202346594
Course: Computer Science Engineering
Semester: 5th Semester
Email: ritu@university.edu

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```

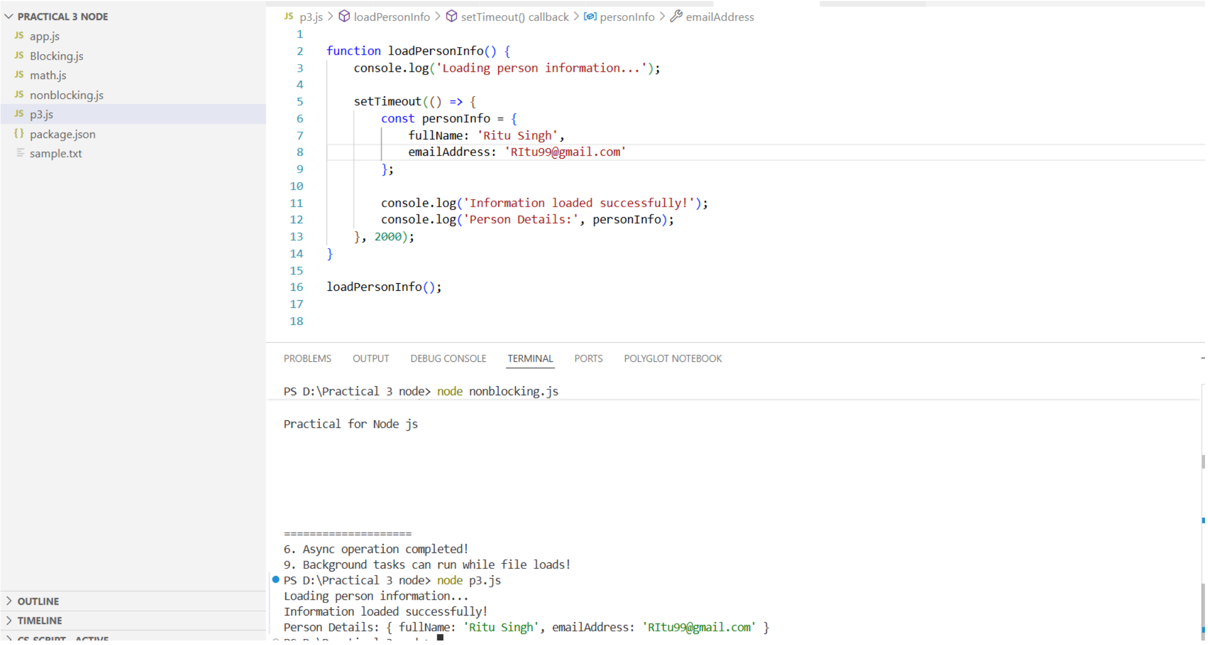

```javascript

function loadPersonInfo() {
    console.log('Loading person information...');

    setTimeout(() => {
        const personInfo = {
            fullName: 'Ritu Singh',
            emailAddress: 'RItu99@gmail.com'
        };

        console.log('Information loaded successfully!');
        console.log('Person Details:', personInfo);
    }, 2000);
}

loadPersonInfo();


```

```
PS D:\Practical 3 node> node nonblocking.js

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===================
6. Async operation completed!
9. Background tasks can run while file loads!
PS D:\Practical 3 node> node p3.js
Loading person information...
Information loaded successfully!
Person Details: { fullName: 'Ritu Singh', emailAddress: 'RItu99@gmail.com' }
```