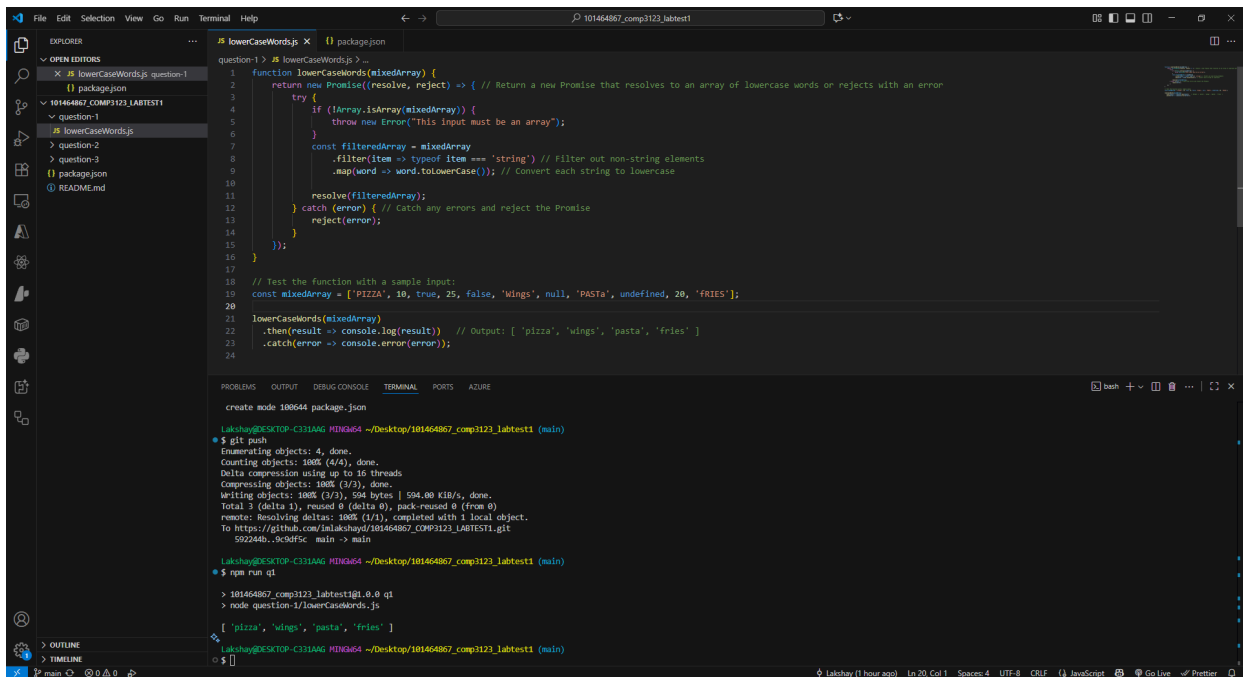


Question 1:



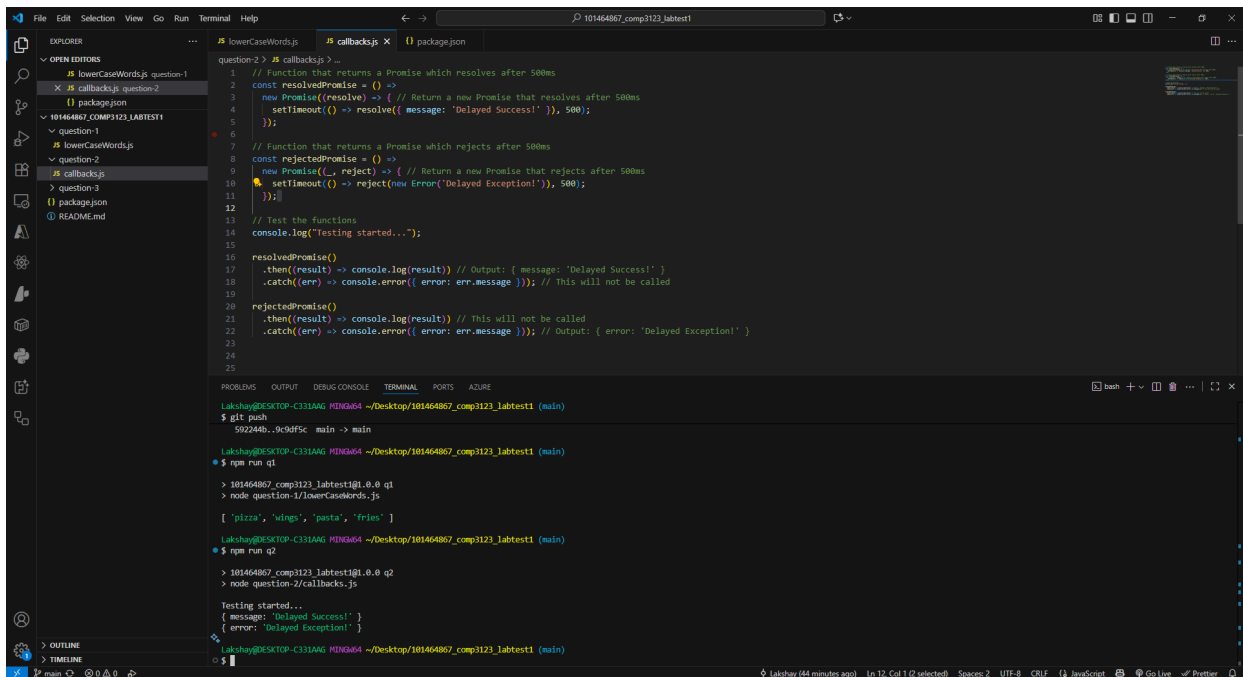
The screenshot shows a VS Code editor with a file explorer on the left. The active file is `lowerCaseWords.js`. The code defines a function `lowerCaseWords(mixedArray)` that returns a Promise. The Promise resolves to an array of lowercase words or rejects with an error if the input is not an array. The function filters out non-string elements and converts strings to lowercase. A test is provided using a sample input array.

```
1 function lowerCaseWords(mixedArray) {
2   return new Promise((resolve, reject) => { // Return a new Promise that resolves to an array of lowercase words or rejects with an error
3     try {
4       if (!Array.isArray(mixedArray)) {
5         throw new Error("This input must be an array");
6       }
7       const filteredArray = mixedArray
8         .filter(item => typeof item === 'string') // Filter out non-string elements
9         .map(word => word.toLowerCase()); // Convert each string to lowercase
10      resolve(filteredArray);
11    } catch (error) { // Catch any errors and reject the Promise
12      reject(error);
13    }
14  });
15 }
16
17 // Test the function with a sample input:
18 const mixedArray = ['PIZZA', 10, true, 25, false, 'Wings', null, 'Pasta', undefined, 20, 'fries'];
19
20 lowerCaseWords(mixedArray)
21   .then(result => console.log(result)) // Output: [ 'pizza', 'wings', 'pasta', 'fries' ]
22   .catch(error => console.error(error));
23
24
```

The terminal output shows the command `npm run q1` being executed, which runs the test file `101464867_comp3123_labtest1`. The output of the test is:

```
[ 'pizza', 'wings', 'pasta', 'fries' ]
```

Question 2:



The screenshot shows a VS Code editor with a file explorer on the left. The active file is `callbacks.js`. The code defines a function `resolvedPromise` that returns a Promise which resolves after 500ms. The function also defines a `rejectedPromise` that returns a Promise which rejects after 500ms. A test is provided using `setTimeout` to delay the resolution and rejection.

```
1 // Function that returns a Promise which resolves after 500ms
2 const resolvedPromise = () => {
3   return new Promise((resolve) => { // Return a new Promise that resolves after 500ms
4     setTimeout(() => resolve({ message: 'Delayed Success!' }), 500);
5   });
6 }
7
8 // Function that returns a Promise which rejects after 500ms
9 const rejectedPromise = () => {
10   return new Promise((_, reject) => { // Return a new Promise that rejects after 500ms
11     setTimeout(() => reject(new Error('Delayed Exception!')), 500);
12   });
13 }
14
15 // Test the functions
16 console.log("Testing started...");
17
18 resolvedPromise()
19   .then(result => console.log(result)) // Output: { message: 'Delayed Success!' }
20   .catch(err => console.error({ error: err.message })); // This will not be called
21
22 rejectedPromise()
23   .then(result => console.log(result)) // This will not be called
24   .catch(err => console.error({ error: err.message })); // Output: { error: 'Delayed Exception!' }
25
26
```

The terminal output shows the command `npm run q2` being executed, which runs the test file `101464867_comp3123_labtest1`. The output of the test is:

```
Testing started...
{ message: 'Delayed Success!' }
{ error: 'Delayed Exception!' }
```

Question 3:

add.js

The screenshot shows a VS Code editor with the file explorer on the left. The 'add.js' file is open in the editor. The code in 'add.js' is as follows:

```
1 // Import necessary modules
2 const fs = require('fs');
3 const path = require('path');
4
5 const logsDir = path.join(__dirname, 'logs'); // Define the logs directory path
6
7 // Create logs directory if it doesn't exist
8 if (!fs.existsSync(logsDir)) {
9   fs.mkdirSync(logsDir);
10  console.log('Logs directory was created.');// Log directory creation
11 } else {
12  console.log('A directory called "logs" already exists.');// Log if directory already exists
13 }
14
15 // Change current working directory to logs
16 process.chdir(logsDir);
17
18 console.log('Current working directory: ${process.cwd()}');// Log current working directory
19
20 // Create 10 log files named log0.txt to log9.txt
21 console.log('Creating log files');// Log file creation start
22
23 for (let i = 0; i < 10; i++) {
24
25 }
```

The terminal output shows the execution of the script:

```
Lakshay@DESKTOP-C331A6G MDK6454 ~\Desktop\101464867_comp3123_labtest1 (main)
$ npm run q3:add
> 101464867_comp3123_labtest1@1.0.0 q3:add
> node question-3/add.js

Logs directory was created.
Current working directory: C:\Users\Lakshay\Desktop\101464867_comp3123_labtest1\question-3\logs
Creating log files:
log0.txt
log1.txt
log2.txt
log3.txt
log4.txt
log5.txt
log6.txt
log7.txt
log8.txt
log9.txt
Log files created successfully.
```

remove.js

The screenshot shows a VS Code editor with the file explorer on the left. The 'remove.js' file is open in the editor. The code in 'remove.js' is as follows:

```
1 // Import necessary modules
2 const fs = require('fs');
3 const path = require('path');
4
5 const logsDir = path.join(__dirname, 'logs'); // Define the logs directory path
6
7 // Remove logs directory and its contents if it exists
8 if (fs.existsSync(logsDir)) { // Check if logs directory exists
9
10  console.log('Logs directory exists. Proceeding to delete files and directory...');
11  const files = fs.readdirSync(logsDir); // Read all files in the logs directory
12
13  for (const file of files) { // Delete each file
14    console.log('delete files...${file}');
15    fs.unlinkSync(path.join(logsDir, file)); // Delete file
16  }
17
18  // Remove the logs directory
19  fs.rmdirSync(logsDir);
20  console.log('Logs directory removed.');// Log directory removed
21 } else {
22  console.log('Logs directory does not exist.');// Log if directory does not exist
23 }
24 }
```

The terminal output shows the execution of the script:

```
Lakshay@DESKTOP-C331A6G MDK6454 ~\Desktop\101464867_comp3123_labtest1 (main)
$ npm run q3:remove
> 101464867_comp3123_labtest1@1.0.0 q3:remove
> node question-3/remove.js

Logs directory exists. Proceeding to delete files and directory...
delete files...log0.txt
delete files...log1.txt
delete files...log2.txt
delete files...log3.txt
delete files...log4.txt
delete files...log5.txt
delete files...log6.txt
delete files...log7.txt
delete files...log8.txt
delete files...log9.txt
Logs directory removed.
```

https://github.com/imlakshayd/101464867_COMP3123_LABTEST1