

Quiz – Part 2-Dictionaries, LINQ, File/Input Output, Exception Handling

Create the C# program based on the following specifications:

1. The program will simulate an exam of five students, answering 5 multiple choice questions.
2. The multiple-choice questions will be 5 choices, ranging from 1 to 5.
3. The answers of each student for each question will be represented by a series of randomized numbers from 1 to 5.

Example:

```
*****Answers*****  
  
Student 1|      3      5      1      5      4  
Student 2|      1      5      1      1      2  
Student 3|      4      3      3      1      4  
Student 4|      5      3      5      2      3  
Student 5|      4      4      4      5      2
```

4. The program will then prompt the user to input the key to correction to the simulated questions. The key to correction serves as the correct answer for each of the question.

```
*****Answers*****  
  
Student 1|      3      5      1      5      4  
Student 2|      1      5      1      1      2  
Student 3|      4      3      3      1      4  
Student 4|      5      3      5      2      3  
Student 5|      4      4      4      5      2  
  
Enter the correct answer for question 1:  3  
  
Enter the correct answer for question 2:  1  
  
Enter the correct answer for question 3:  4  
  
Enter the correct answer for question 4:  2  
  
Enter the correct answer for question 5:  1
```

5. You will provide validations using the exception handling technique to ensure the user inputs only a number and numbers from 1 to 5 only.

Example:

```
Enter the correct answer for question 1:  s
You must enter a number
```

```
Enter the correct answer for question 1:  9
You should only enter numbers 1 to 5
```

6. Once the key to correction is inputted, the program will check each student answers to the key to correction and will display the total score of each student.

```
*****Answers*****
```

Student 1	1	5	4	3	1
Student 2	1	1	1	3	4
Student 3	1	1	4	5	5
Student 4	1	2	2	5	3
Student 5	3	1	2	4	2

```
Enter the correct answer for question 1:  1
```

```
Enter the correct answer for question 2:  1
```

```
Enter the correct answer for question 3:  1
```

```
Enter the correct answer for question 4:  3
```

```
Enter the correct answer for question 5:  2
```

```
Student 1 score is 2
Student 2 score is 4
Student 3 score is 2
Student 4 score is 1
Student 5 score is 2
```

7. The program will also display the highest score and the lowest score.

```
The highest score is  4
The lowest score is  1
```

8. The program will prompt the user if he or she wants to process another transaction again if yes, the entire process would begin again.
9. The program will also have the capability to save the highest score and the lowest score in the text file and display them at start.
 - a. For the initial run of the program, since there is no data yet, the following will be displayed.

```
No previous exams exist yet
*****Answers*****

Student 1|      3      3      4      2      5
Student 2|      5      5      2      1      5
Student 3|      4      2      4      5      3
Student 4|      4      3      3      2      1
Student 5|      1      5      2      2      5

Enter the correct answer for question 1: |
```

- b. For every exam transaction, the text file should be able to save the highest and the lowest and **display them the next time the program is run from the beginning.**

```
Do you want to process another set of exams? Enter Y for yes and N for no: Y
The highest score in the 1 exam was 3
The lowest score in the 1 exam was 0

*****Answers*****

Student 1|      2      4      4      2      3
Student 2|      1      4      4      5      3
Student 3|      1      5      1      2      5
Student 4|      1      3      5      2      5
Student 5|      5      5      4      3      5

Enter the correct answer for question 1: |
```

10. The program should be able to utilize two dimensional arrays.
11. The program should utilize functions
12. The program should be able to use LINQ.
13. The program should have ample documentation.
14. The program should follow proper naming conventions.
15. The program should be running and without errors.

Sample Program Run:

No previous exams exist yet

*****Answers*****

Student 1	5	2	4	5
Student 2	2	5	3	4
Student 3	3	4	4	2
Student 4	3	4	4	5
Student 5	5	4	2	5

Enter the correct answer for question 1: 2

Enter the correct answer for question 2: 5

Enter the correct answer for question 3: 3

Enter the correct answer for question 4: 1

Enter the correct answer for question 5: 2

Student 1 score is 0

Student 2 score is 4

Student 3 score is 0

Student 4 score is 0

Student 5 score is 1

The highest score is 4

The lowest score is 0

Do you want to process another set of exams?

The highest score in the 1 exam was 4

The lowest score in the 1 exam was 0

*****Answers*****

Student 1	2	3	5	5	2
Student 2	5	4	3	5	3
Student 3	2	5	5	1	4
Student 4	3	4	1	4	1
Student 5	3	2	1	5	2

Enter the correct answer for question 1: 3

Enter the correct answer for question 2: 4

Enter the correct answer for question 3: 2

Enter the correct answer for question 4: 3

Enter the correct answer for question 5: 4

Student 1 score is 0

Student 2 score is 1

Student 3 score is 1

Student 4 score is 2

Student 5 score is 1

The highest score is 2

The lowest score is 0

The highest score in the 1 exam was 4
The lowest score in the 1 exam was 0

The highest score in the 2 exam was 2
The lowest score in the 2 exam was 0

*****Answers*****

Student 1	2	4	1	4	1
Student 2	5	1	3	1	1
Student 3	3	2	1	4	5
Student 4	3	4	5	2	3
Student 5	1	3	1	5	5

Enter the correct answer for question 1: t
You must enter a number

Enter the correct answer for question 1: 3

Enter the correct answer for question 2: 2

Enter the correct answer for question 3: 9
You should only enter numbers 1 to 5

Enter the correct answer for question 3: 3

Enter the correct answer for question 4: 1

Enter the correct answer for question 5: 3

Student 1 score is 1
Student 2 score is 1
Student 3 score is 2
Student 4 score is 1
Student 5 score is 0
The highest score is 2
The lowest score is 0

Do you want to process another set of exams? Enter Y for yes and N for no: N