HW02

FURKAN ÖZEV 161044036

PART 1:

```
Enter student count: 2

Not in Range!!!

Enter student count: 51

Not in Range!!!

Enter student count: -1

Not in Range!!!

Enter student count: 34
68    56    62    52    43    77    74    65     0    26
82    67    42     7    56     5    17    35    84    41
58    54     3    64    26    15    66    50    68   100
41    94    16    31
------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection:
```

If the user does not enter a number from 3 to 50, it prints the message and requests a number again.

```
------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection: 0

False Selection !!!

------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection: 1

Most Succesfully student:
Index: 30
Score: 100
Letter grade: A
```

```
--------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection: 2

Most Unsuccesfully student:
Index: 9
Score: 0
Letter grade: F

--------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection: 3

2 student got letter grade 'A'
2 student got letter grade 'B'
2 student got letter grade 'C'
7 student got letter grade 'D'
21 student got letter grade 'F'
```

```
--------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection: 4

The avearage Score of 34 Student is 48.382353

--------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection: 5

Most Succesfully student:
Index: 30
Score: 100
Letter grade: A

Most Unsuccesfully student:
Index: 9
Score: 0
Letter grade: F

2 student got letter grade 'A'
2 student got letter grade 'B'
2 student got letter grade 'C'
7 student got letter grade 'D'
21 student got letter grade 'F'

The avearage Score of 34 Student is 48.382353
```

```
-------------------------------------------------------
Student Score Calculator Menu for 34 Student

1) Most Successful Student
2) Most Unsuccessful Student
3) Letter Grade Statistics
4) Calculate Average
5) Show all Data
                Make Selection: -1

You were successfully exited.

-------------------------------
Process exited after 221.8 seconds with return value 0
Press any key to continue . . .
```

CODE DETAİL:

1.) I got the number of students from the user. [3,50]
2.) I have checked whether this number is in range. If this number is not in range, I want it to enter again.
3.) In the For loop I add the numbers that I get with the rand () function in the sum variable and I compared to the previous number to find the maximum and minimum grade.
4.) There are 2 different indexes. One is the maximum grade, the other is the minimum grade index. I am also changing the maximum or minimum grades' indexes if the maximum or minimum number changes when comparing with the previous number.
5.) I check the letter grade of every number entered and I increase the letter grade counter's number by 1.
6.) The number of students is equal to the number of randomly generated grades.
7.) Print Menu and User makes choice
8.) If user enter -1 , the program will be terminated. Does not enter -1, The menu will continue to come.

PART 2:

```
Enter the number: 23

Number must be between 23 and 98760 (23,98760)
Enter the number: 98760

Number must be between 23 and 98760 (23,98760)
Enter the number: 56240

The fifth digit is 5
The fourth digit is 6
The third digit is 2
The second digit is 4
The first digit is 0

--------------------------------
Process exited after 18.53 seconds with return value 0
Press any key to continue . . .
```

```
 Enter the number: 06240

 The fourth digit is 6
 The third digit is 2
 The second digit is 4
 The first digit is 0

--------------------------------
Process exited after 12.72 seconds with return value 0
Press any key to continue . . .
```

```
 Enter the number: 6850

 The fourth digit is 6
 The third digit is 8
 The second digit is 5
 The first digit is 0

--------------------------------
Process exited after 2.222 seconds with return value 0
Press any key to continue . . .
```

```
 Enter the number: 10053

 The fifth digit is 1
 The fourth digit is 0
 The third digit is 0
 The second digit is 5
 The first digit is 3

--------------------------------
Process exited after 5.861 seconds with return value 0
Press any key to continue . . .
```

CODE DETAİL:

1.) I got the number from the user. (23,98760)

2.) To find the fifth number I divide the number entered by the user into 10 thousand and get the mod according to 10

3.) To find the fourth number I divide the number entered by the user into 1 thousand and get the mod according to 10

4.) To find the third number I divide the number entered by the user into 100 and get the mod according to 10

5.) To find the second number I divide the number entered by the user into 10 and get the mod according to 10

6.) To find the first number I get the mod according to 10

7.) If the fifth digit is computed as 0, the number entered by the user can not be 5 digits and the fifth digit is not printed.

8.) If the fifth digit is computed as 0, the number entered by the user can not be 5 digits and the fifth digit is not printed.

9.) If the fourth digit is computed as not 0 , the number entered by the user can be 4 digits and fourth digit is printed. If the fourth digit is calculated as 0, it is checked whether the fifth digit is 0 or not. If it is 0, the fourth digit is not printed. If it is not 0, the fourth digit is printed.

10.) The similar rules apply in the third number. if the fifth number is not 0 or the fifth number is 0 but fourth number is not 0, the third number can be 0.

11.) the minimum number is 24, so there is no need for any control.