LAB1 – C# Language Fundamentals

Using C# language to create a **Console application** that serves to generate mathematical statistics. The program must store a total of 1000 numerical values with decimals in an array of data and must also have a menu with different options that the user can select. It will run until the user presses the exit option. The program menu must include the following options (1-5):

1. Add

2. Show

3. Search

4. Statistics

5. Exit

Add *(2 mark)*

In the option to add, you can add new values in the data array. Be careful not to exceed 1000 values in the data array.

Show *(2 mark)*

The view option will show the list of values in a line. There may not be any values yet.

Search *(2 mark)*

To search for values, you must request a real number from the user and show whether or not it exists in the program. There may not be any values yet.

Statistics

This option will show the user a summary of statistics of the data array values, it must include:

Total stored values *(1 mark)*

The total sum of values *(1 mark)*

Average *(1 mark)*

Maximum value and minimum value *(1 mark)*

Finally, you should consider when the user enters a different option from 1 to 5.

Input:

```
1.    1. Add
2.    2. Show
3.    3. Search
4.    4. Statistics
5.    5. Exit
6.    Enter a option (1-5): 1
7.    7
8.
9.    1. Add
10.   2. Show
11.   3. Search
12.   4. Statistics
13.   5. Exit
14.   Enter a option (1-5): 2
15.
16.   1. Add
17.   2. Show
18.   3. Search
19.   4. Statistics
20.   5. Exit
21.   Enter a option (1-5): 3
22.   6
23.
24.   1. Add
25.   2. Show
26.   3. Search
27.   4. Statistics
28.   5. Exit
29.   Enter a option (1-5): 4
30.
31.   1. Add
32.   2. Show
33.   3. Search
34.   4. Statistics
35.   5. Exit
36.   Enter a option (1-5): 5
```

Output:

```
1.    7
2.    Not found
3.    Total data: 1
4.    Sum: 7
5.    Average: 7
6.    Min value: 7
7.    Max value: 7
```