

## Assignment 1:

The repository contains 4 files: Header file, main1.cpp , Source.cpp and text.txt file.

### 1) The header file contains the declaration of the following functions:

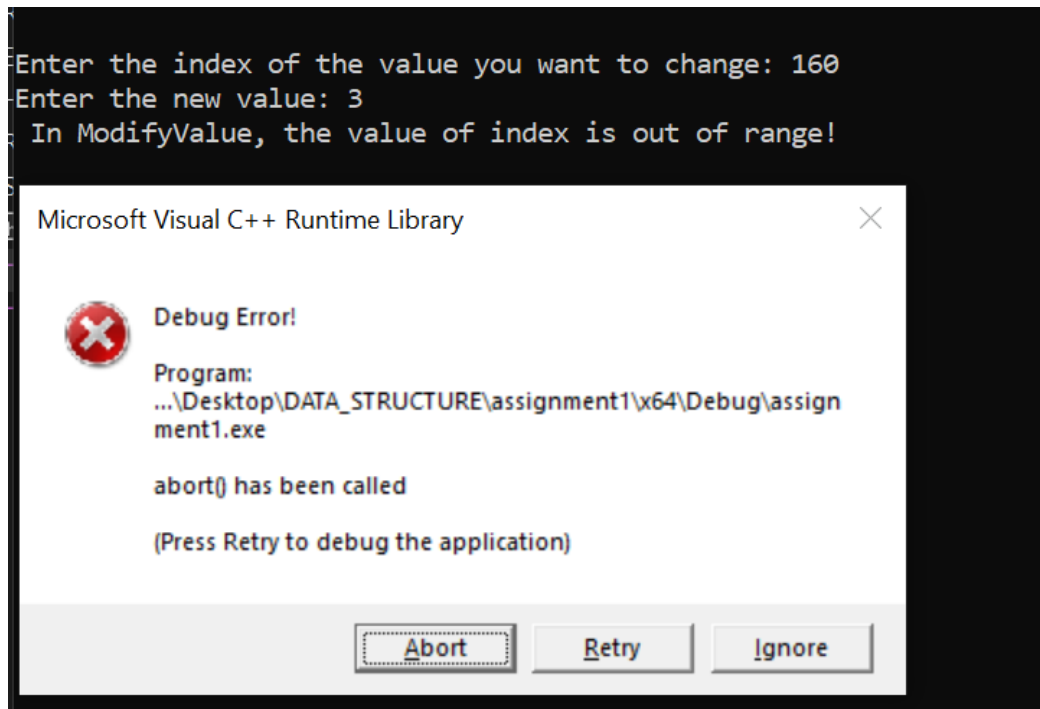
```
int Search(int array[], int const SIZE, int target);  
int ModifyValue(int array[], int index,int const SIZE, int newVal);  
void Add(int array[], int const SIZE, int newValue);  
void Delete(int array[], int index, int const SIZE);
```

### 2) The Source.cpp file contains the definition of the above functions:

**int Search(int array[], int const SIZE, int target):** This function helps to find an element in the array by providing the index by the user, if the element is found then the function returns the index, otherwise return -1.

```
1 3 2 5 12 4 8 12 65 23 7 5 6 7 9 10 15 23 66 76 13 99 32 44 24 21  
27 49 58 51 50 55 11 14 16 17 18 25 26 27 28 29 30 36 37 38 46 47  
543 568 976 8 345 98 432 233 250 455 654 753 823 900 213 433 234  
Enter the value you're looking for: 160  
the number 160 is found at index -1
```

**int ModifyValue(int array[], int index,int const SIZE, int newVal):** ModifyValue function can modify or change a value by giving a certain index and returns the new value, if the index is not valid, then the function throw an error and handles it by using try block and catch on main.cpp file.



**void Add(int array[], int const SIZE, int newValue):** Add function adds an element to the end of the array, by using a while loop we can reach the index where the element of the array is equal to 0, if the element of the array is equal to 0, the function asks the user to add an element to that index, otherwise the array is full and throw an exception.

```
You can add a value to index 100  
Which value you want to add to the end of the array: 333  
The value 333 is added to the index 100  
1 3 4 5 12 4 8 12 65 23 7 5 6 7 9 10 15 23 66 76 13 99 32 44 24 21 20 19 68 90 31 35 37 33 32 39 41 42 43 45 98 96 74 73 27 49  
56 58 59 71 81 88 77 66 73 79 66 64 62 123 321 346 543 568 976 8 345 98 432 233 250 455 654 753 823 900 213 433 234 333 0 0 0  
0 0 0 0 0 0 0 0 0 0
```

**void Delete(int array[], int index, int const SIZE):** Delete function intakes an index and replaces its value by 0, if the index is out of range, the function throws an error and handles it by using try block and catch.

```
Enter the index of the value you want to remove: 1
1 0 4 5 12 4 8 12 65 23 7 5 6 7 9 10 15 23 66 76 13 99
 27 49 58 51 50 55 11 14 16 17 18 25 26 27 28 29 30 36
 543 568 976 8 345 98 432 233 250 455 654 753 823 900
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

- 3) **main.cpp file**: store the values of text.txt file on an array of integers, then we call the different functions and use try blocks and catch to handle errors.

[illegible]