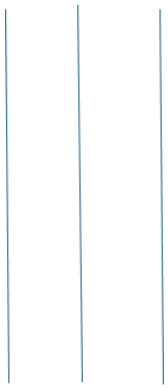
CSC 710 – STRUCTURE AND DESIGN PROGRAMMING LANGUAGE



ASSIGNMENT 1

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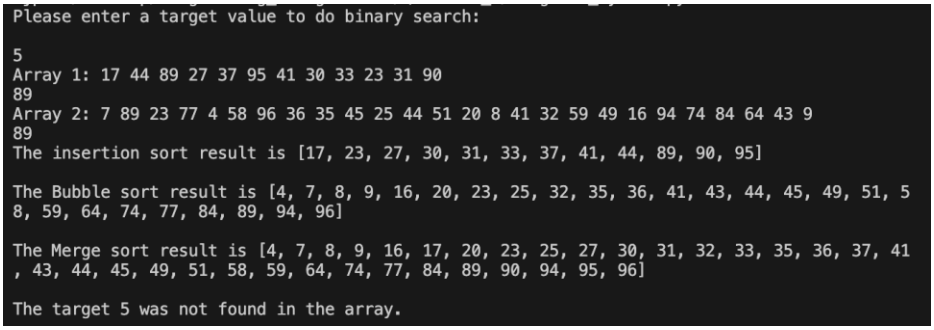
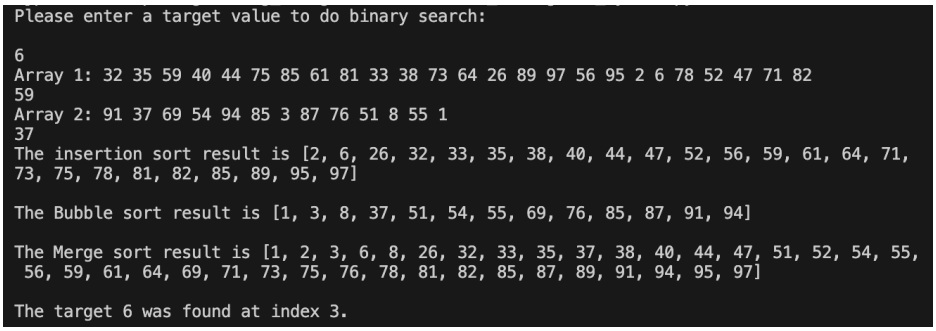
1. There are three Program for each language (i.e. C++, Java, and Python):
2. Two arbitrary sizes of integer arrays (array_1 and array_2) are generated randomly. No need to enter the array size and array number.
3. You must enter the value for target to perform the binary search for it.

Test cases for python:





Test cases for C++:

- **To run C++ language Program, you need to type "g++ -std=c++11 Programm_Cplusplus.cpp -o Prog.out && ./Prog.out" in visual studio code terminal.**

```
yuvrajpant@Yuvrajs-MacBook-Pro Question_1 % g++ -std=c++11 Programm_Cplusplus.cpp -o Prog.out &
& ./Prog.out
Enter a target value to do binary search (it should be an interger: )

4
Array 1:39 37 96 48 78 3 81 24 21 5 40 24 69 88

Array 2:24 20 14 45 13 10 8 31 76 48 23 64 4 82 94 39 66 52 8 32 17 43 21 33 76 7

The Insertion sort result is: 3 5 21 24 24 37 39 40 48 69 78 81 88 96

The Bubble sort result is: 4 7 8 8 10 13 14 17 20 21 23 24 31 32 33 39 43 45 48 52 64 66 76 76
82 94

The Merge sort result is: 3 4 5 7 8 10 13 14 17 20 21 23 24 31 32 33 37 39 40 43 45 48 52 64 66
 69 76 78 81 82 88 94 96

Binary_Search_Result: The target 4 was found at index 1.
```

```
yuvrajpant@Yuvrajs-MacBook-Pro Question_1 % g++ -std=c++11 Programm_Cplusplus.cpp -o Prog.out &
& ./Prog.out
Enter a target value to do binary search:

2
Array 1:60 19 44 80 5

Array 2:80 8 85 71 68

The Insertion sort result is: 5 19 44 60 80

The Bubble sort result is: 8 68 71 80 85

The Merge sort result is: 5 8 19 44 60 68 71 80 85

Binary_Search_Result: the target 2 was not found in the array.
```

Test cases for JAVA:

```
Enter a target value to do binary search:
4
Array 1: 50 91 98 75 28 92 100 77

Array 2:96 1 90 79 97 42 12 77 93 93 26

The Insertion sort result is: 28 50 75 77 91 92 98 100

The Bubble sort result is: 1 12 26 42 77 79 90 93 93 96 97

The Merged sort result is: 1 12 26 28 42 50 75 77 79 90 91 92 93 96 97 98 100

Binary_Search_Result: The target 4 was not found in the array.
```

```
Enter a target value to do binary search:
25
Array 1: 52 52 30 26 43 52 90 96 2 82 73 51 94 15 8 9 52 25 16 77 34 91 74 27 87 73 67

Array 2:14 70 34 53 50 85 80 23 4 31

The Insertion sort result is: 2 8 9 15 16 25 26 27 30 34 43 51 52 52 52 52 67 73 73 74 7
7 82 87 90 91 94 96

The Bubble sort result is: 4 14 23 31 34 50 53 70 80 85

The Merged sort result is: 2 4 8 9 14 15 16 23 25 26 27 30 31 34 43 50 51 52 53 67 70 73
 74 77 80 82 85 87 90 91 94 96

Binary_Search_Result: The target 25 was found at index 8.
```