Kathmandu University

Department of Computer Science and Engineering

Dhulikhel, Kavre

COMP-202

LAB WORK-5

Submitted By:

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Group: Computer Engineering

Level: 2nd Year First Semester

Submitted to:

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Github repository link: SamirWagle/CE2020_Lab5_59_60 (github.com)

https://github.com/SamirWagle/CE2020_Lab5_59_60

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\samir\Desktop\CE2020_Lab5_59_60> g++ main2.cpp
PS C:\Users\samir\Desktop\CE2020_Lab5_59_60> ./a.exe

How many times do you want to sort: 8

How many numbers do you want to sort:5000

Random values generated and stored successfully
For Insertion Sort

Insertion Sort

*****************************

TOTAL TIME (MILLISECOND) REQUIRED TO SORT THE DATA USING INSERTIONSORT:172

*****************************




How many numbers do you want to sort:10000

Random values generated and stored successfully
For Insertion Sort

Insertion Sort

*****************************

TOTAL TIME (MILLISECOND) REQUIRED TO SORT THE DATA USING INSERTIONSORT:646

*****************************




How many numbers do you want to sort:15000

Random values generated and stored successfully
For Insertion Sort

Insertion Sort

*****************************

TOTAL TIME (MILLISECOND) REQUIRED TO SORT THE DATA USING INSERTIONSORT:1460
```
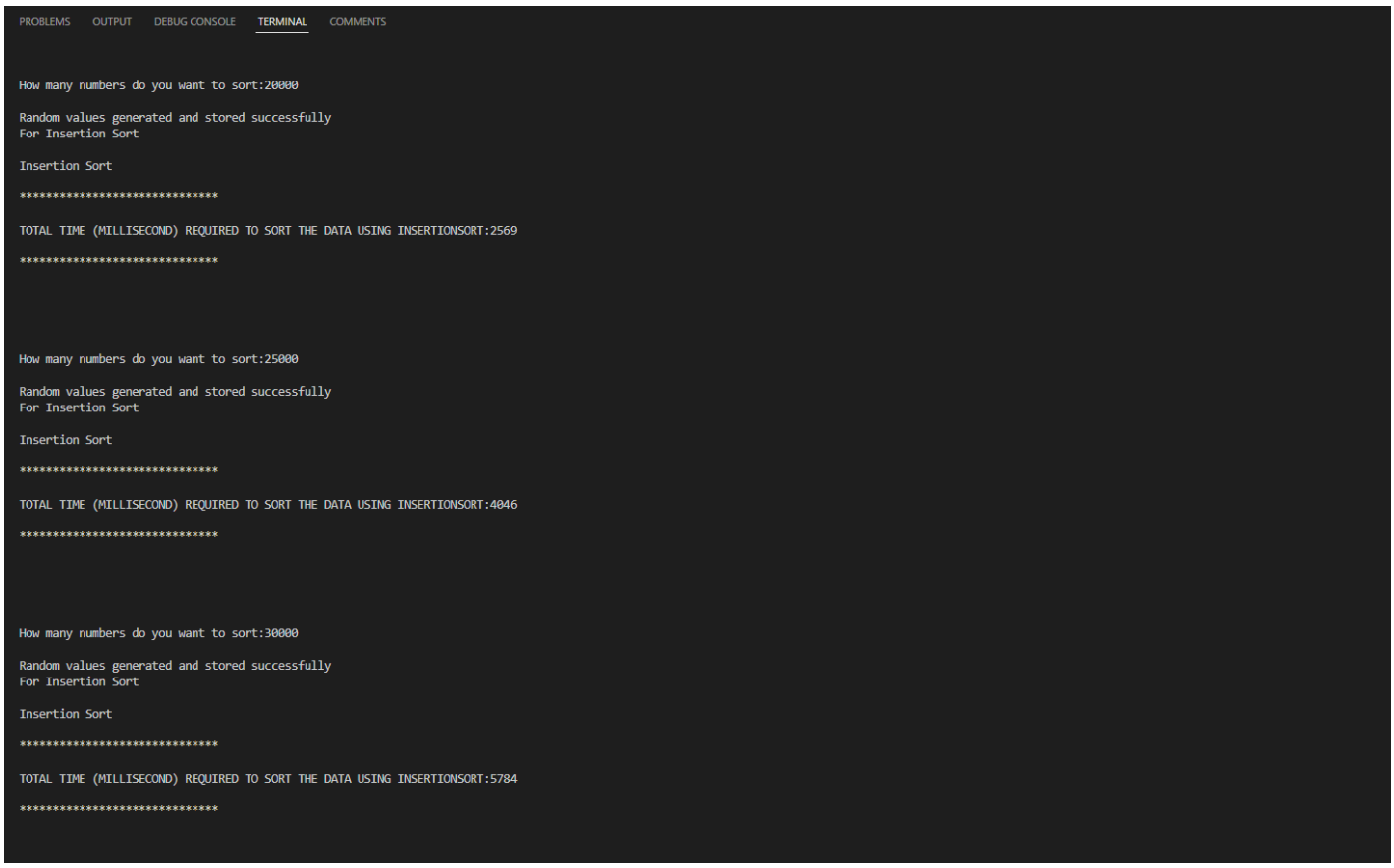
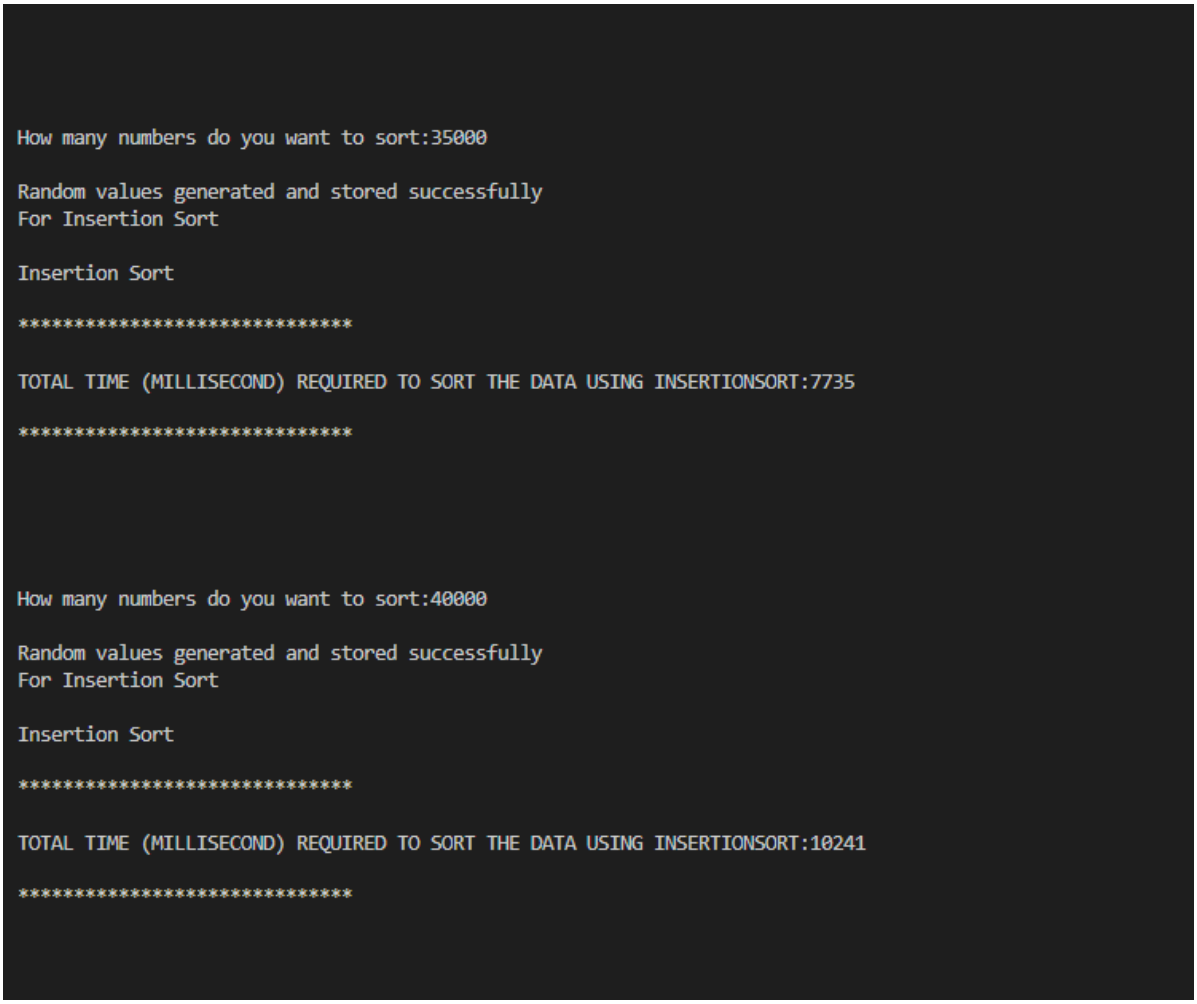
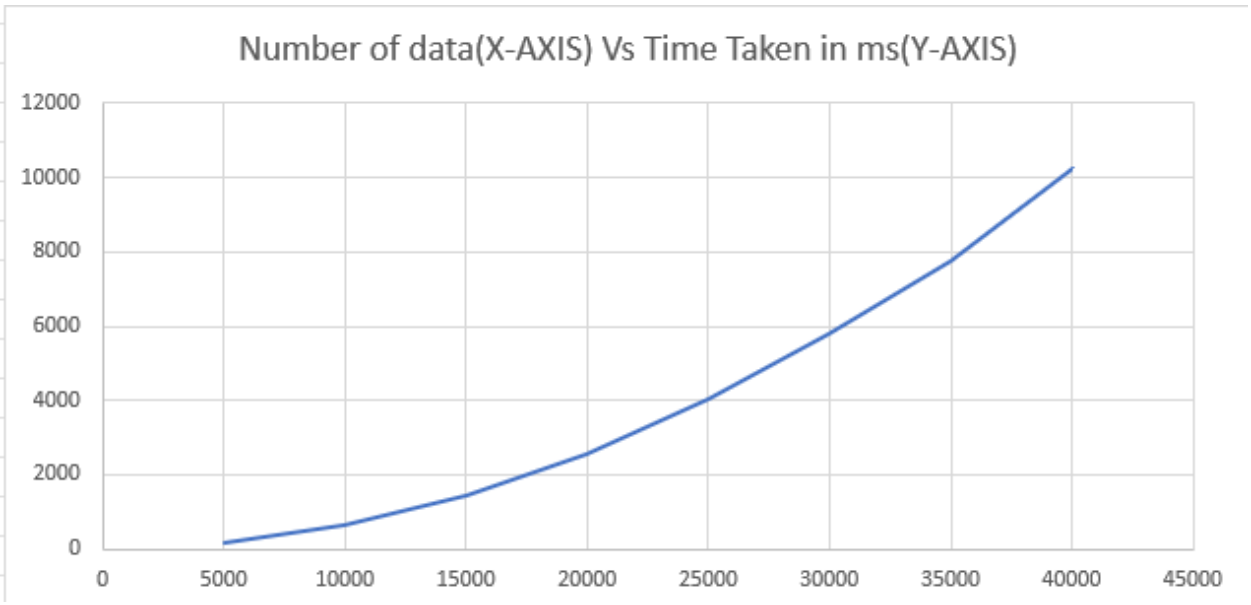


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
COMMENTS
How many numbers do you want to sort:20000
Random values generated and stored successfully
For Insertion Sort
Insertion Sort
****
TOTAL TIME (MILLISECOND) REQUIRED TO SORT THE DATA USING INSERTIONSORT:2569
****
How many numbers do you want to sort:25000
Random values generated and stored successfully
For Insertion Sort
Insertion Sort
****
TOTAL TIME (MILLISECOND) REQUIRED TO SORT THE DATA USING INSERTIONSORT:4046
****
How many numbers do you want to sort:30000
Random values generated and stored successfully
For Insertion Sort
Insertion Sort
****
TOTAL TIME (MILLISECOND) REQUIRED TO SORT THE DATA USING INSERTIONSORT:5784
****



Here data is sort using insertion sort and time taken to sort is being recorded. The time and number of data sort graph is drawn to analyze the time difference due to increase in amount of data.

Graph


Number of data(X-AXIS) Vs Time Taken in ms(Y-AXIS)
12000
10000
8000
6000
4000
2000
0
0
5000
10000
15000
20000
25000
30000
35000
40000
45000