Operating System Practicals

Problem

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1. Attached with this assignment are two source programs - bubble.cpp and shell.cpp. To compile them, use command
g++ bubble.cpp -o bubble
g++ shell.cpp -o shell
To use them .... type
./bubble 100
./shell 100
Both the above commands will generate 100 random numbers, sort them using respective algorithms, and return time taken in microseconds.
Write a shell script to run these programs with different values ranging from 10 to 10000, and display the results in a tabular form.

Shellscript:

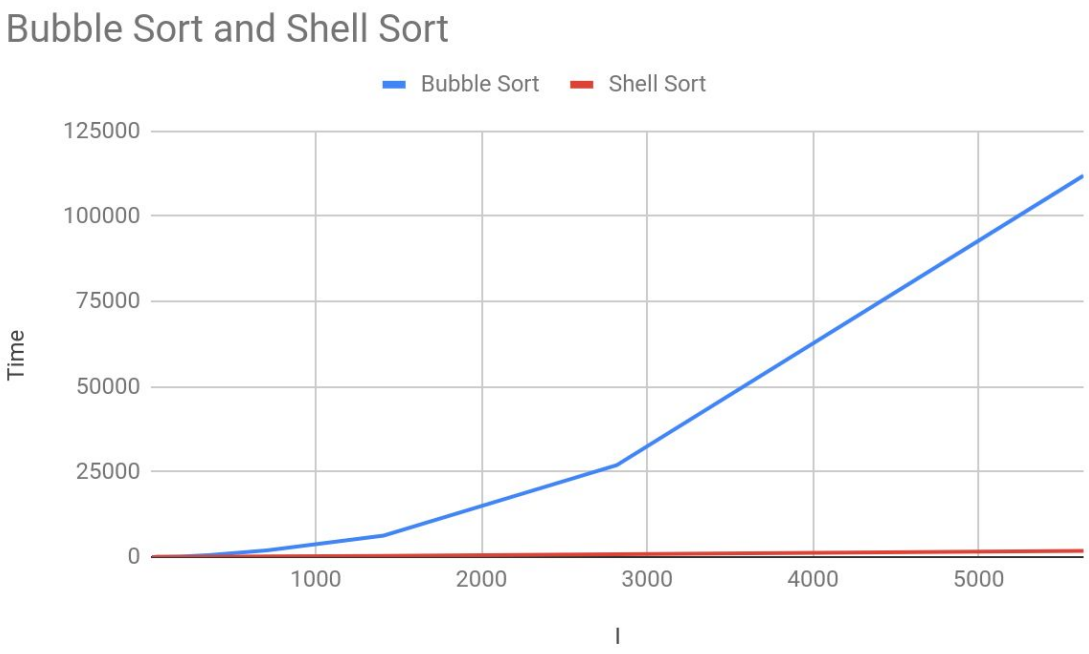
```
#! /bin/bash

echo 'I,Bubble Sort,Shell Sort'
for ((i=11;i<=10000;i*=2))
do
   echo -ne $i,
   echo -ne $(./bubble $i),
   echo  -ne $(./shell $i),
   echo ''
done
```

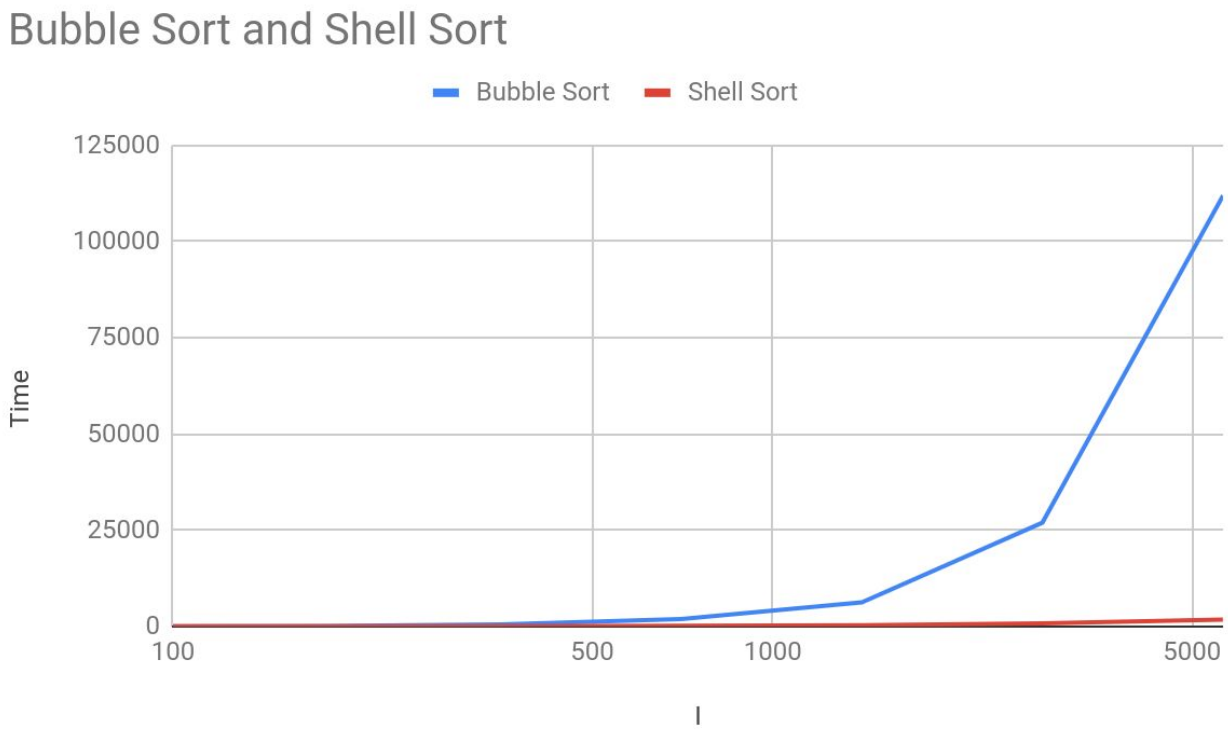
Output.csv:

```
I,Bubble Sort,Shell Sort
11,1,2,
22,4,4,
44,10,8,
88,33,17,
176,114,39,
352,552,76,
704,1907,167,
1408,6260,356,
2816,26955,841,
5632,111935,1780,
```

Visualisation:



Normal Scale



Logarithmic Scale