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Roll no – 1301007

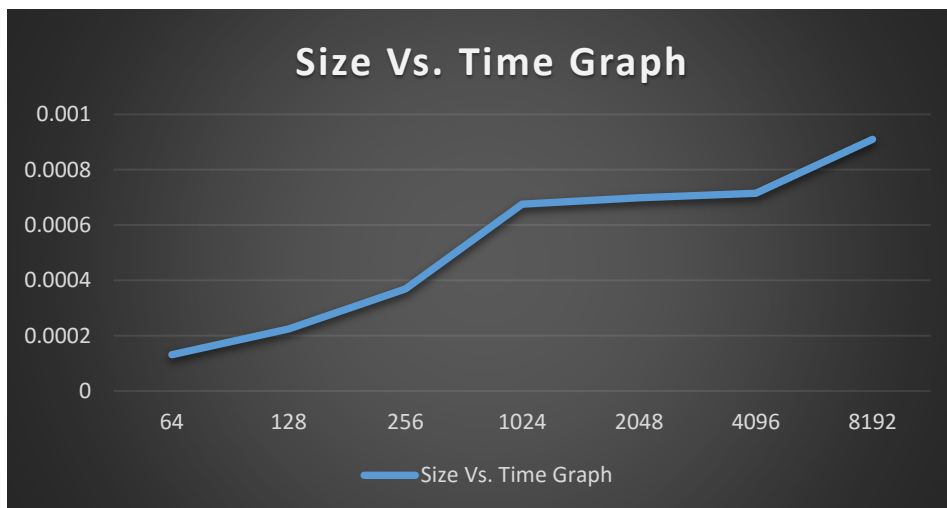
Assignment 1 – Statistics of Run.

1. Parallel Sum of n numbers

Following are the input of n ($n = 2^k$) and output in seconds.

Input (n) output (seconds)

64	0.000131
128	0.000224
256	0.000369
1024	0.000675
2048	0.000699
4096	0.000715
8192	0.00091

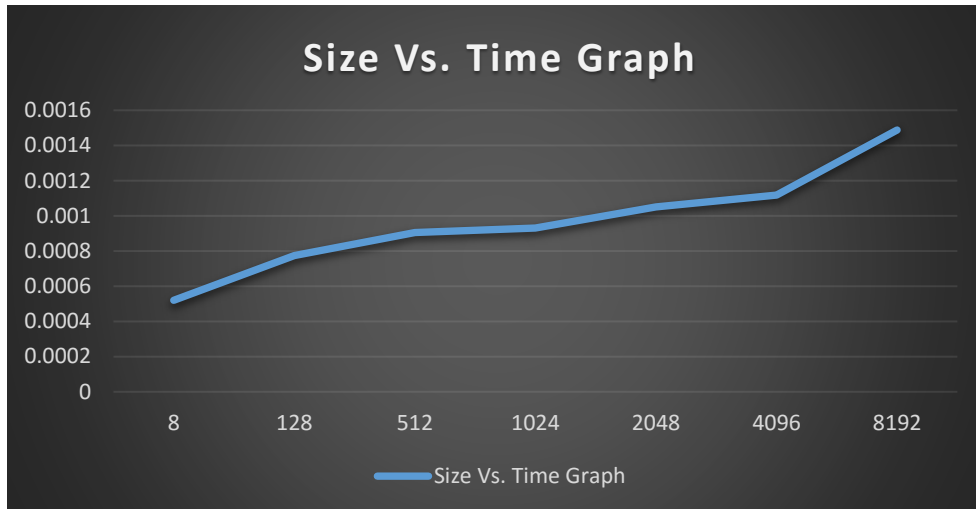


2. Parallel Prefix Sum –

Following are the input of n ($n = 2^k$) and output in seconds.

Input (n) Time (Sec)

8	0.00052
128	0.000775
512	0.000905
1024	0.00093
2048	0.00105
4096	0.001119
8192	0.001488

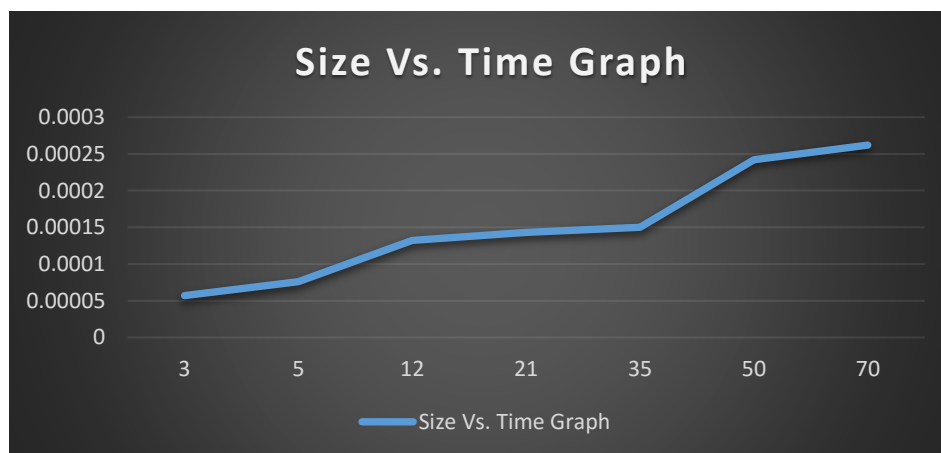


3. Parallel Matrix Multiplication-

The input =n means $n \times n$ (for example 3 means matrix was 3×3 , so obviously vector will be 3×1)

Input ($n=n \times n$) Output (sec)

3	0.000057
5	0.000076
12	0.000132
21	0.000143
35	0.00015
50	0.000242
70	0.000262

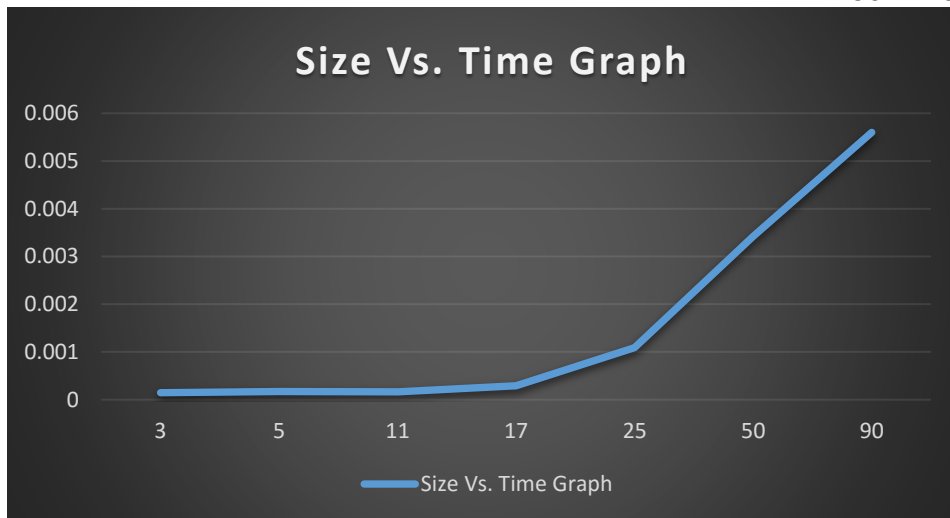


4. Parallel Matrix transpose –

Here, in x axis , any value n represents that matrix was of dimension “ $n*(n+1)$ ” dimension, and on Y-axis I have represented the time in transposing the original matrix.

Input(n means dim = $n*(n+1)$) Time(Sec)

3	0.000146
5	0.000173
11	0.000162
17	0.000293
25	0.00109
50	0.00342
90	0.0056



5. Parallel_Root_Finding –

In that we will have time based on our input forest of trees and which node is connected to which tree and root, and each tree in the forest had several nodes which was difficult to present in graph, so I have not shown that into graph but I have tested that for several inputs and it is perfectly running for those inputs as graph.