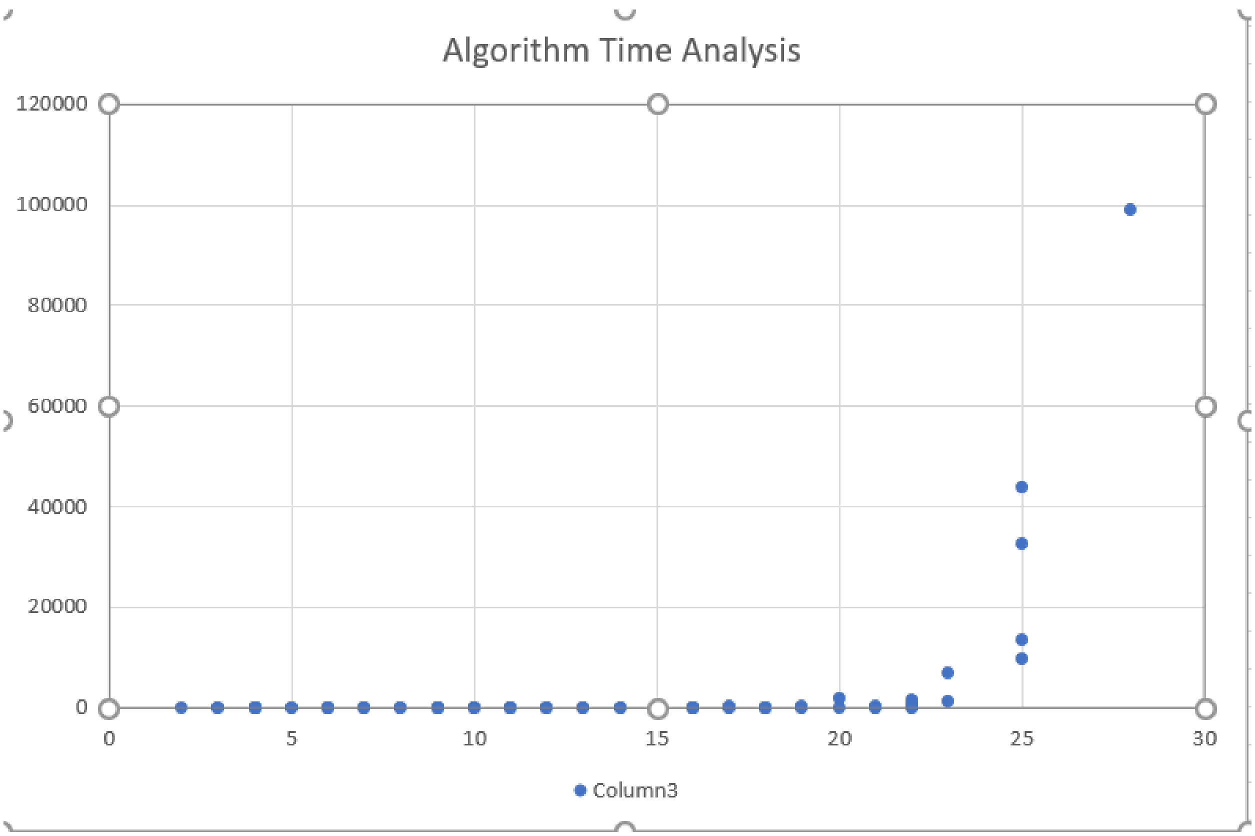
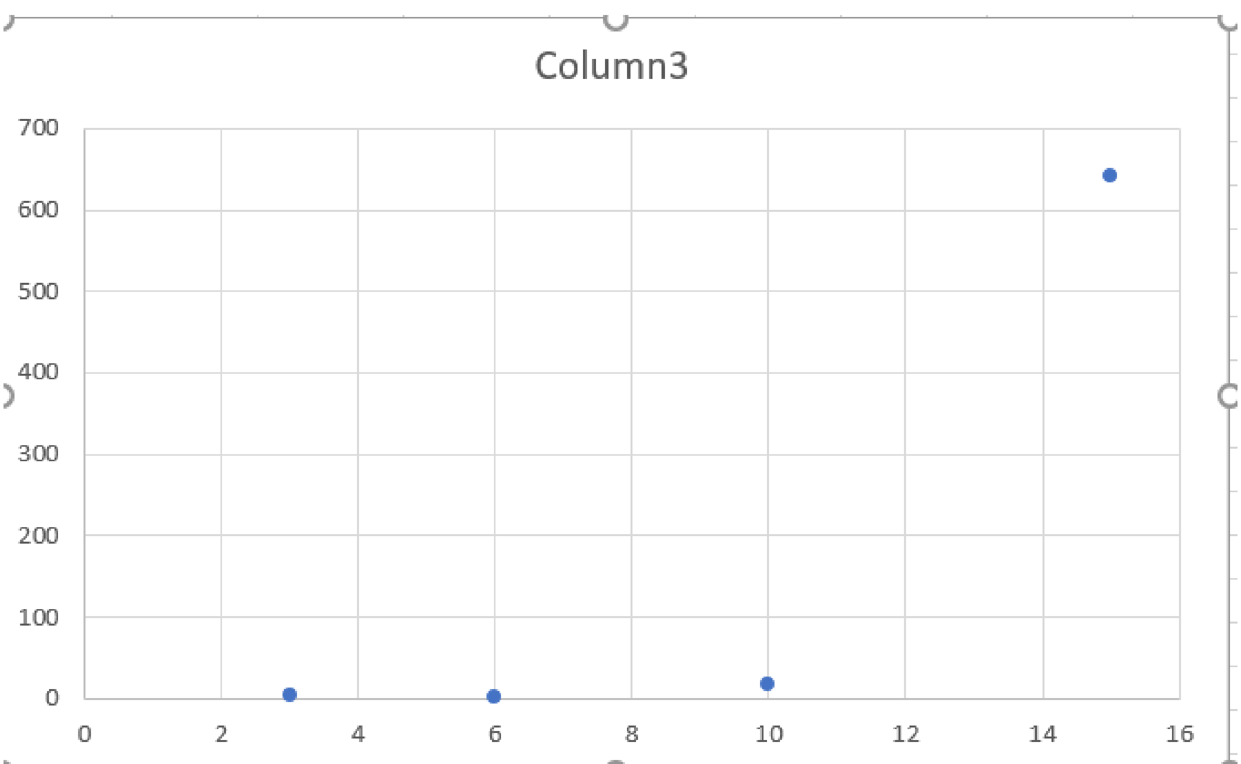

Algorithm Time Analysis
120000
100000
80000
60000
40000
20000
0
0
5
10
15
20
25
30
Column3


Column3
700
600
500
400
300
200
100
0
0
2
4
6
8
10
12
14
16

Runtime(ms)	Edges
4	11
2	9
87	17
0	4
1	11
0	11
0	4
2	16
0	8
0	4
2	16
0	7
11	17
0	6
0	12
0	5
0	2
0	3
34	17
1	11
0	4
0	16
1	16
0	10

Runtime(ms)	Edges
3	3
1	6
18	10
642	15

The algorithm is shown to have factorial runtimes in both graphs. The first graph consists of the runtime of sparse to dense graphs, determined by a probability of 2* .5% of having an edge at vertex to another vertex. The dense graph consists of generated edges with a 100% chance of having an edge, causing a fully dense graph of sigma i to n-1 nodes, so for n = 5 there are 10 edges total. Thus, the second graph depicts the worst case runtime, that is, the most edges possible of the graph. Since the runtime is less than that of the more sparse graph, it proves that the graph is also affected by the amount of vertices along with the edges, following my conclusion that it is O(s!).