Runtime	Vertices
0	5
0	50
0	100
0	200
0.01562	500
0.03125	1000
0.21875	2500
1.10938	5000

Runtime Graph

The topological sort function should operate in constant time O(V + E) where E is larger so you only have to analyse E (number of edges). As you can see above, the blue line is the graph of my program's runtime, and the red line is a theoretical O(n) line representing a runtime of constant time. Therefore it appears that the program will run in roughly constant time. As the function grows exponentially larger, the runtime will increase constantly with it, resulting in a big-O of constant time (n). This matches what we would expect from my program, which will loop through the graph exactly once as it only will process a node that hasn't been visited before.