

Part 2 Runtime

V = # of vertices

E = # of edges

RUNTIME COMPLEXITY is $O(V^2)$

because we need to traverse each element of adjmatrix which contains V^2 number of elements

Adjacency list to adjacency matrix conversion require only

$O(V+E)$ because we need to traverse all vertices and for every vertices we need to traverse edges connected to it.

Total no of edges in graph are E and each edge is only traversed once.

A conversion function for adjacency list to adjacency matrix would have a time complexity same $O(V^2)$ and depends upon V only.