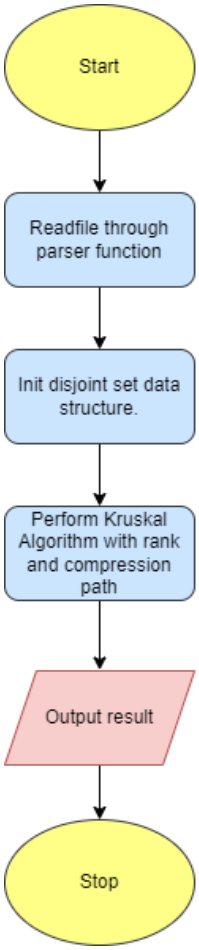
Algorithm Lab2 MST

Flow chart:



Time Complexity Analysis:

define N = # of vertex, complete graph # of edge = N^2

Parser: $O\left(N^2\right)$

Kruskal Algorithm on the complete graph with rank and path compression:

Sort edge: $O\left(E\lg E\right)=O\left(N^2\lg\left(N^2\right)\right)=O\left(N^2\lg N\right)$

Loop in Kruskal perform $O\left(E\right)=O\left(N^2\right)$ on find set and union on disjoint set.

Total time complexity $O\left(E\lg V\right)=O\left(N^2\lg\left(N\right)\right)$