

1a. Worst case of Kruskal's is $O(n*m)$ because I have the algorithm iterate at max $n-1$ times which goes over the complete edge list which is length m ;

1b. Worst case for my Prim's algorithm is similar. It iterates at max $n-1$ times which goes over the complete Edge list looking for a particular edge which is length m thus $O(n*m)$;

2. Kruskal's algorithm will be best when having a large number of edges this is because it'll just find the lowest cost edge and be done. Prim's algorithm will be best when there are fewer than $n-1$ edges because otherwise the graph will be disconnected and not work.

3. Kruskal's algorithm fails at any graph where the graph is not fully connected. Prim's may fail if a greedy approach is not optimal. For example let's say it chooses Edge X to continue forward and then Edges Y and Z. But if Prim's chose a different edge in the beginning it may be able to cut down using Edge Y which might be very large.