Midterm 2 Study Guide

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|  | Run Time |  |
| Breath First Search | O(V+E) | Queue |
| Depth First Search | O(V+E) | Stack |
| Top Sort (DFS) | O(V+E) | Prerequisites |
| Top Sort (Non DFS) | O(V+E) |  |
| Strong Conn Comp | O(V+E) | Reverse the graphs (DFS) |
| Kruskal MST( Dis join) | O(sort + Elgv) | Minimum Edges Of whole graph |
| Prim MST | O(Elg(v)) or O(E + Vlg(v)) | Min Edges of a BFS |
| \*Bellman Ford SSSP | O(EV) | Relax all edges over and over |
| \*Dijksta SSSP | O(Elg(v)) or O(E + Vlg(v)) | BFS w/ Lowest weights |
| \*DAG SSSP | O(V+E) | Goes down levels |
| Floyd Warshall | O(V^3) | Compare adjancy amtrix |

\*Relaxed Algorithms

DAG SSSP: O(E) Works only on acyclic graph (No Cycles)

Dijkstra : O(E lg V)

: O (E + Vlgv) -With a fibonachhi Heap

No Negative Edges

Bellman Ford: O(E + V) Always works

Minimum Spanning tree: Finds the weight of the whole graph with minimum possible.