

Kruskal's

- 1) Grows with minimum cost edge.
- 2) If we stop algorithm in the middle, kruskal can give a disconnected tree or forest.
- 3) Need to give attention on cycle check.
- 4) Can function on the disconnected graphs too.
- 5) Edge selection is not based on previous step.
- 6) Allows new to new & old and old to get connected.
- 7) With an efficient Union-Find algorithm, running time is dominated by time needed for sorting edges. $O(|E| \log |E|)$

Prim's

- 1) Grows with minimum cost vertex.
- 2) If we stop algorithm in the middle, prim always generates a connected tree.
- 3) Need not give attention on cycle check.
- 4) Graphs must be connected.
- 5) Spans from one vertex to another.
- 6) Joins new vertex to old vertex.
- 7) Weight matrix & priority queue as unordered array is $O(|V|^2)$. Adjacency list & priority queue as min heap is $O(|E| \log |V|)$