

# Dijkstra's Algorithm (SSSP)

What is the running time?

```
DijkstraSSSP(G, s):
6   foreach (Vertex v : G):
7       d[v] = +inf
8       p[v] = NULL
9   d[s] = 0
10
11   PriorityQueue Q // min distance, defined by d[v]
12   Q.buildHeap(G.vertices())
13   Graph T          // "labeled set"
14
15   repeat n times:
16       Vertex u = Q.removeMin()
17       T.add(u)
18       foreach (Vertex v : neighbors of u not in T):
19           if _____ < d[v]:
20               d[v] = _____
21               p[v] = m
```