

Prim's Algorithm

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

	Adj. Matrix	Adj. List
Heap	$O(n^2 + m \lg(n))$	$O(n \lg(n) + m \lg(n))$
Unsorted Array	$O(n^2)$	$O(n^2)$