Prim's ALgorithm runtime

Assuming minimum priority queue is implemented by Heap "min Heap"

```
MST-Prim(G,w,r)
1   for each u∈G.V                          |V|
2     u.key = ∞
3     u.π = NIL
4   r.key=0                                 1
5   Q=G.V                                   O(|V|)
6   while Q≠∅                               |V|
7     u=Extract_MIN(Q)                      log|V| · |V|
8     for each v∈G.Adj[u]                   |E| → |E| is |V|·|adj|
9       if v∈Q and w(u,v)<v.key
10        v.π=u
11        v.key=w(u,v)                      Log|V| · |E|
```

$T = |V| + |V| + |V|\log|V| + |E| \cdot \log|V|$

$|E| > |V|$

Running time: $O(|E|\log|V|)$

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Sec.1