

(int[], int[]) CamminiMinimi(GRAPH  $G$ , NODE  $s$ )

(1)    PRIORITYQUEUE  $S \leftarrow$  PriorityQueue //  $\mathcal{O}(n) \cdot 1$   
 $S.\text{inserisci}(s, 0)$

(2)    while not  $S.\text{isEmpty}$  do //  $\mathcal{O}(n)$

    //  $\mathcal{O}(n)$  vettore ordinato /  $\mathcal{O}(\log n)$  heap binario

    int  $u \leftarrow S.\text{deleteMin}$

$b[u] \leftarrow \text{false}$

    foreach  $v \in G.\text{adj}(u)$  do

        if  $d[u] + G.w(u,v) < d[v]$  then

            if not  $b[v]$  then

                //  $\mathcal{O}(1) \cdot n$  vettore ordinato /  $\mathcal{O}(\log n) \cdot n$  heap binario

$S.\text{inserisci}(v, d[u] + G.w(u,v))$

$b[v] \leftarrow \text{true}$

            else

                //  $\mathcal{O}(1) \cdot m$  vettore ordinato /  $\mathcal{O}(\log n) \cdot m$  heap binario

$S.\text{decrease}(v, d[u] + G.w(u,v))$

$T[v] \leftarrow u$

$d[v] \leftarrow d[u] + G.w(u,v)$

return  $(T, d)$