```
SSSP-Dijkstra

SSSP-Dijkstra(G,root) // G = (V,E,W)
 1  for each u in V
 2        do u.priority = MAX_VALUE;
 3           u.unvisited = TRUE
 4           u.father = NULL
 5  root.priority = 0 // root in V
 6  Q.Insert(root); // Priority Queue Q
 7  while Q not empty
 8        do u = DeleteMin(Q)
 9           u.unvisited = FALSE
10           add edge (u.father, u) into the spanning tree
11           for each (u,v) in E
12                 do If v.unvisited and u.priority + W(u,v) < v.priority
13                      then v.father = u
14                           v.priority = u.priority + W(u,v)
15                           Q.InsertOrUpdate(v)
```

G =

	A	B	C	D	E	F	H
A		2				3	
B	2		1	3			
C		1		1			1
D		3	1		4		
E				4			5
F	3						1
H			1		5	1	