

Algoritmo di Prim - 1957

giovedì 26 gennaio 2023 16:55

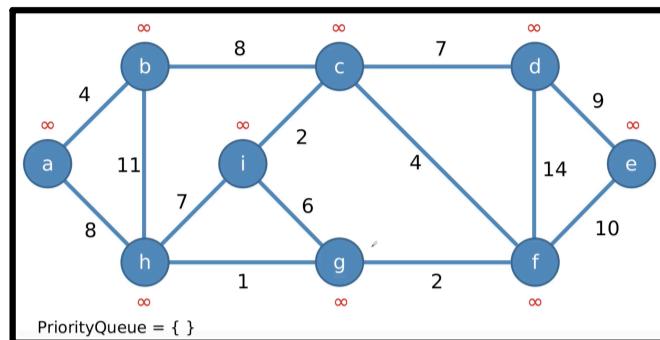
Algoritmo di Prim—1957

- Intuitivamente: ad ogni passo viene aggiunto il nodo raggiungibile dalla componente connessa a distanza minima

$O(E + V \log V)$

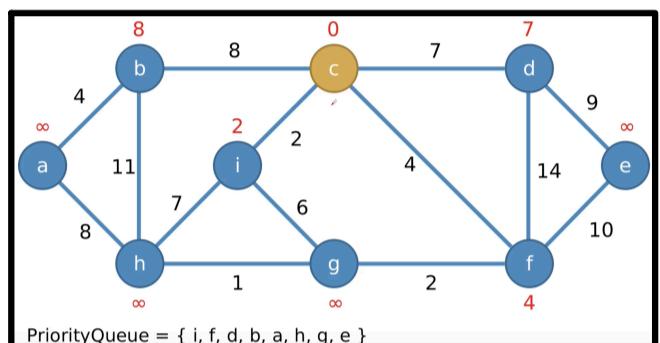
PARTO DA UNA RADICE A CASO!

Ogni volta che scopro un nuovo nodo, dico qual'è il costo che pago per raggiungerlo!
SERVE UNA CODA DI PRIORITÀ!



Chab, i, f, d come ADIACENTI.

C'È STATO scelto totalmente a caso. Tutti i suoi ADIACENTI non avranno più un costo infinito, ma solo raggiungibili.

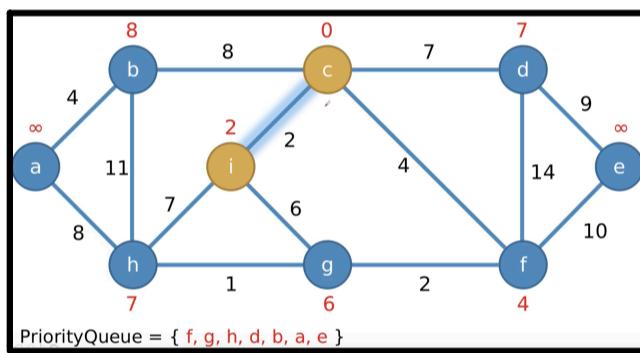
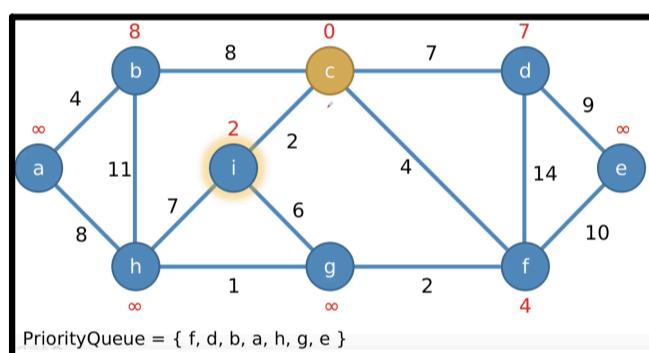


ORA NELLA NOSTRA CODA, mettiamo i nodi IN ORDINE di costo.

OSSIA PARTO dal nodo che ha COSTO MINIMO (degli adiacenti) per raggiungere c., e man mano aumenta.

a, h, g, e hanno costo infinito!

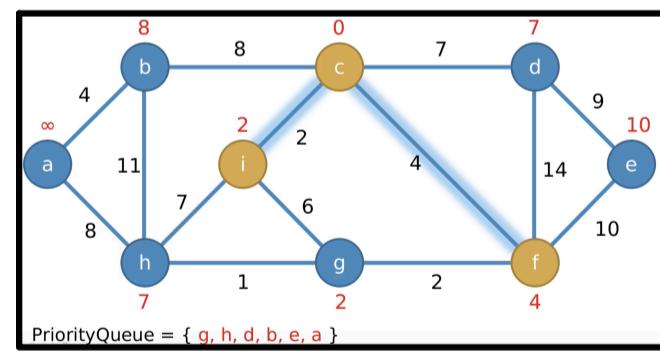
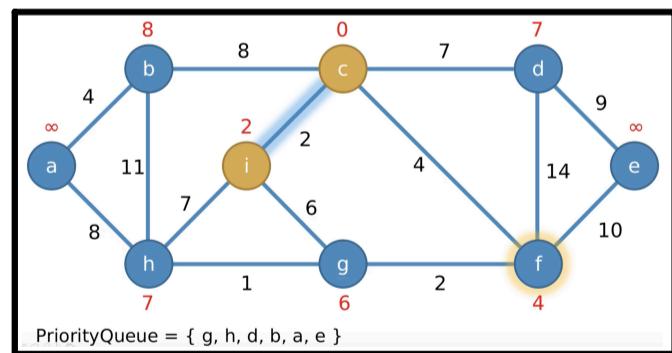
ESTRAGGO IL NODO A PRIORITÀ MINIMA, che è i.



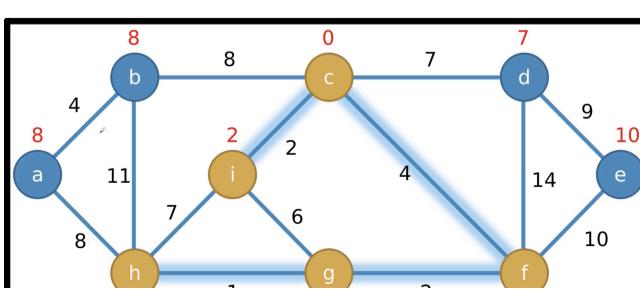
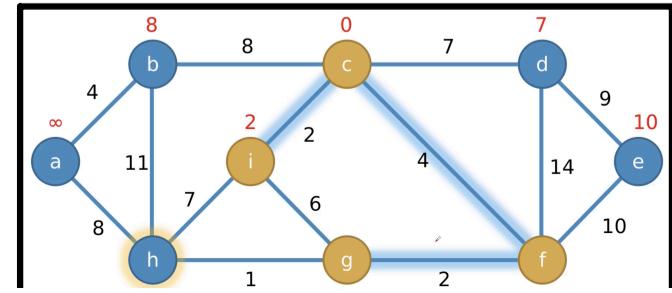
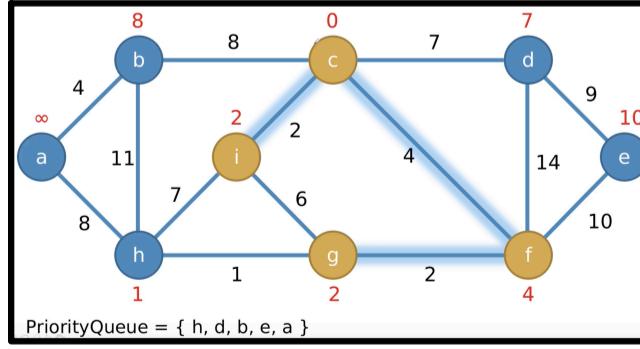
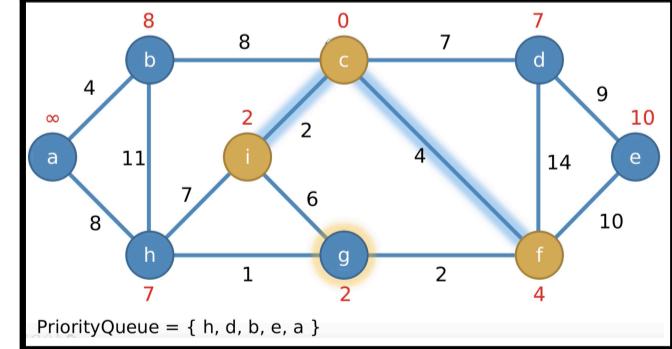
INSERISCO L'ARCO (c,i) all'interno del mio MST.

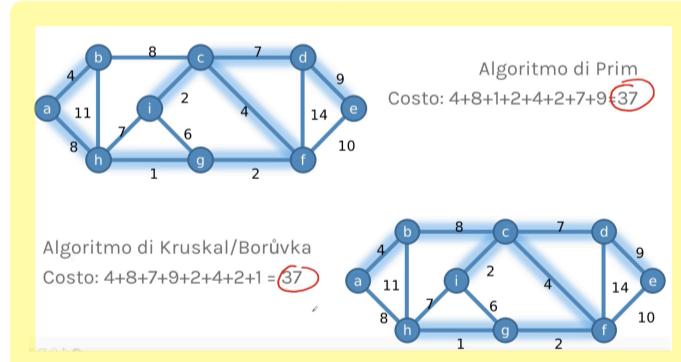
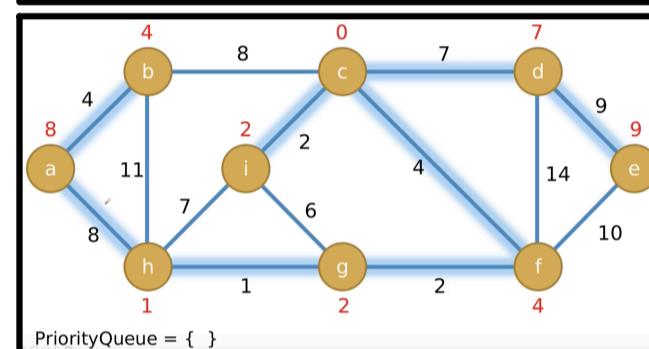
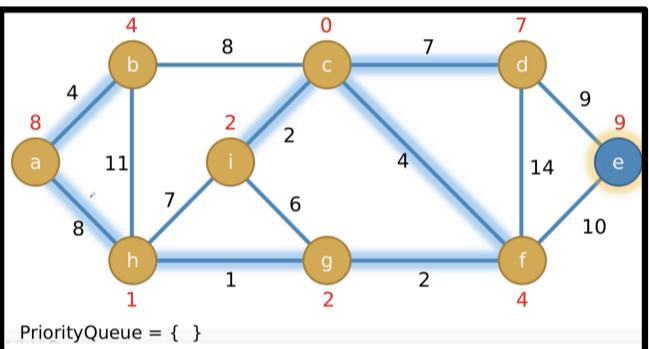
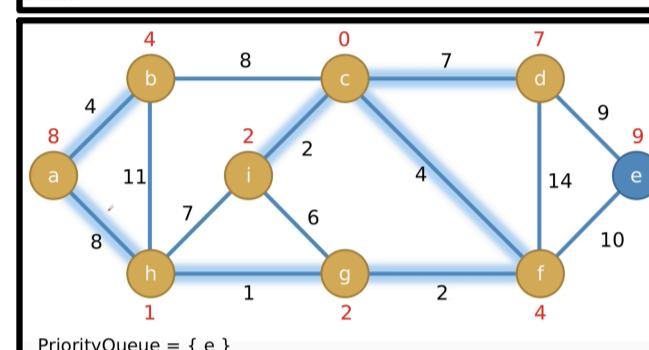
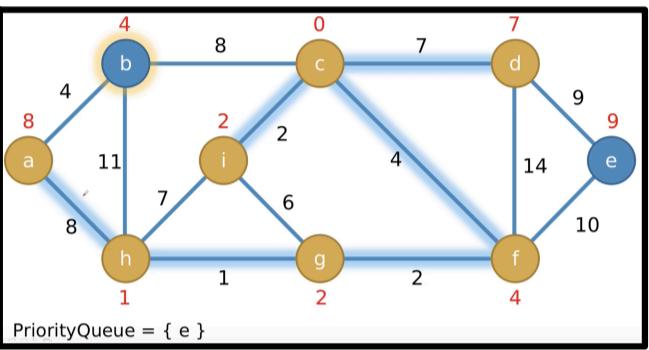
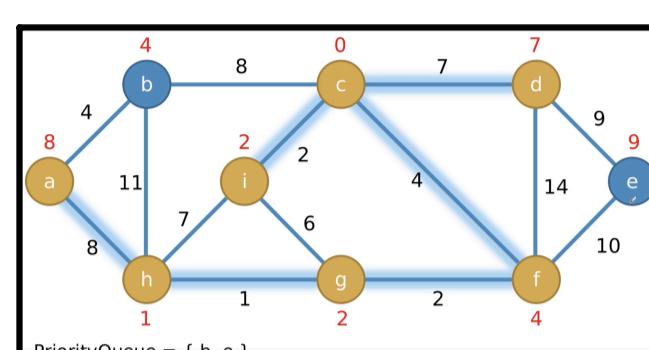
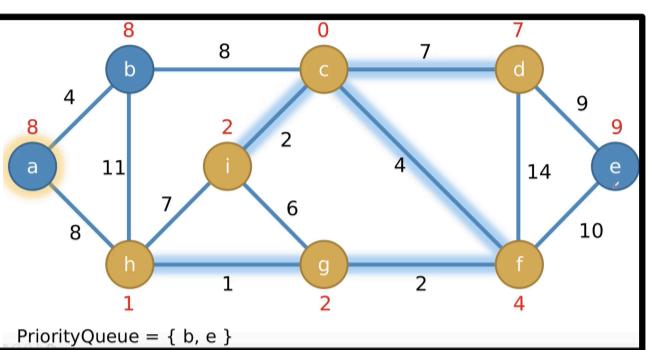
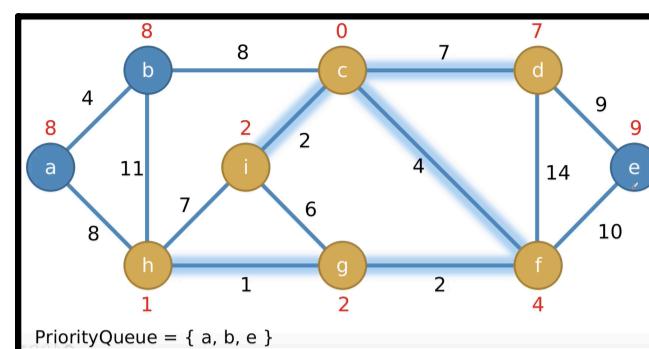
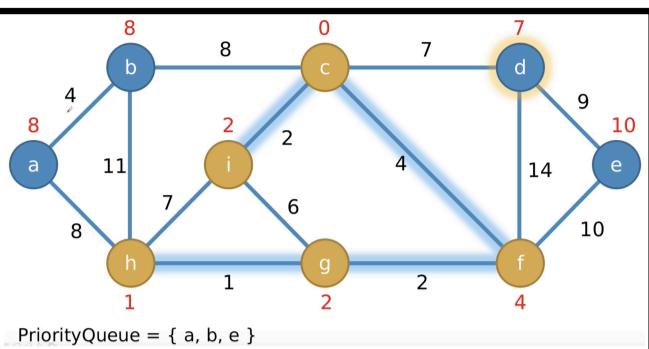
Mi calcolo le distanze di tutti quanti i nodi raggiungibili dal nodo scoperto i!

ESTRAGO F!



ESTRAGO G





Ci sono più MST, ma comunque la somma è minima.