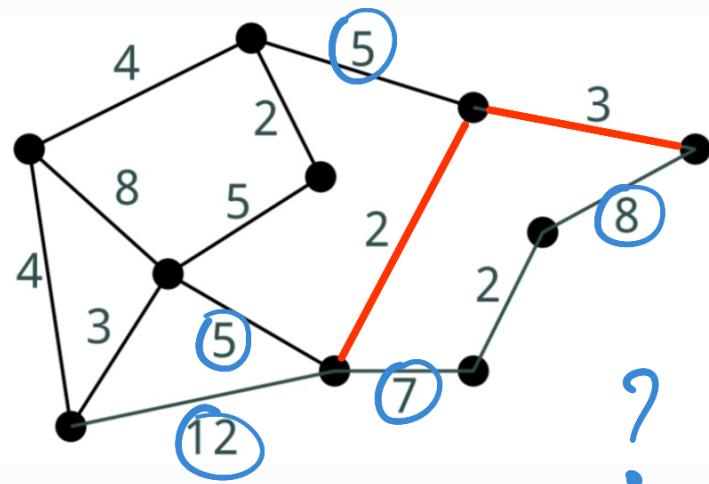
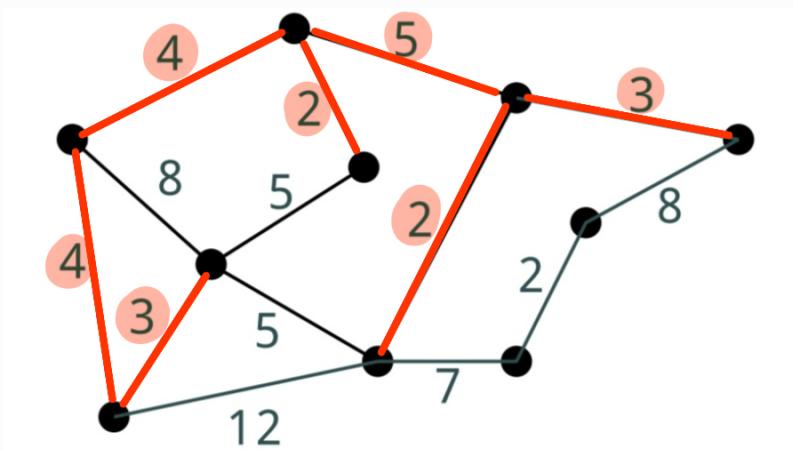


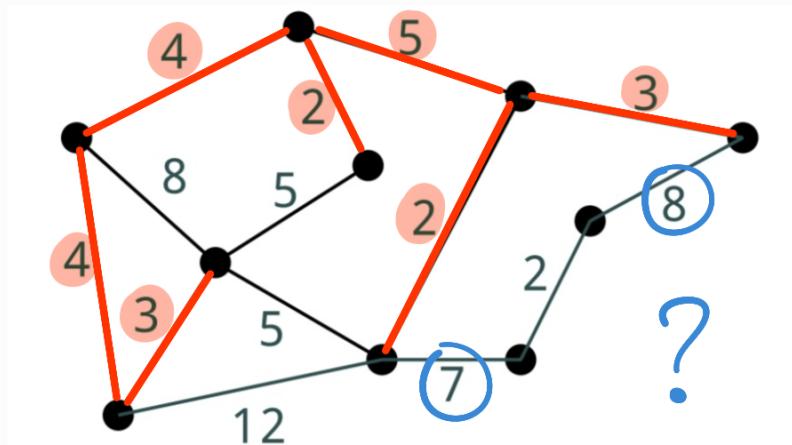
Scelgo il nodo
con peso minore



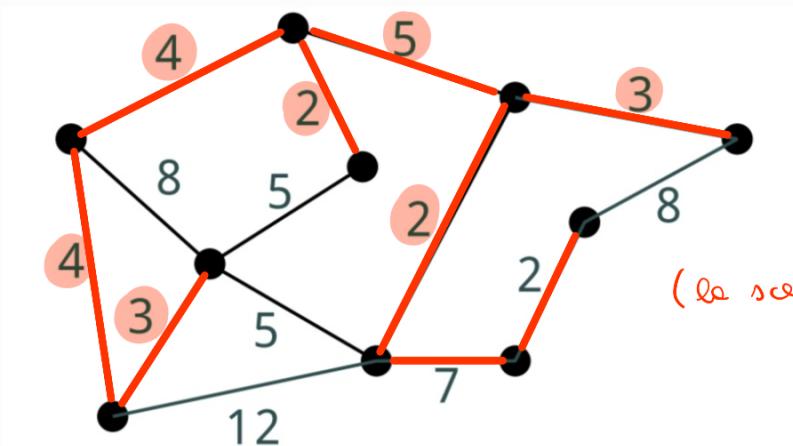
Quale scelgo ?
Uno di quelli de
5
(peso minore)



Queste scelte
sono banali



scelgo ancora
il minore
(7)
?

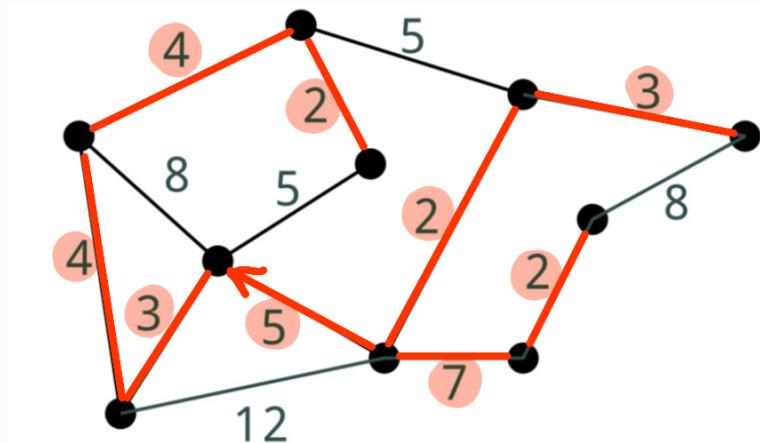
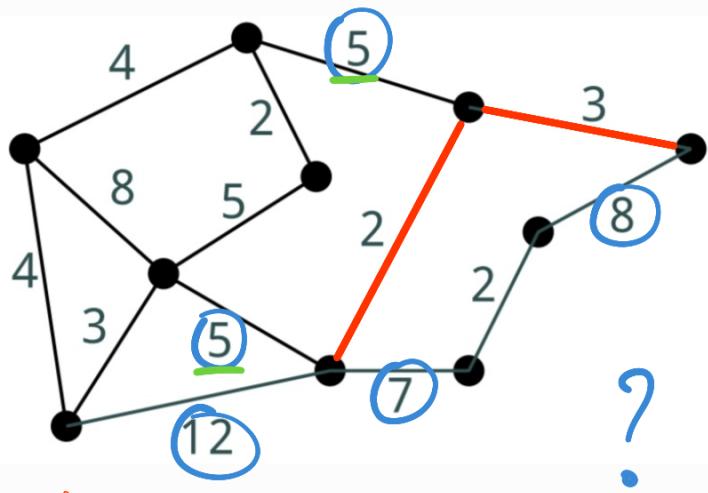


(le scelte del 2 e 3 sono banali)

FINITO

Albero minimo ricoprente con peso 32

Ripetiamo scegliendo l'altro s



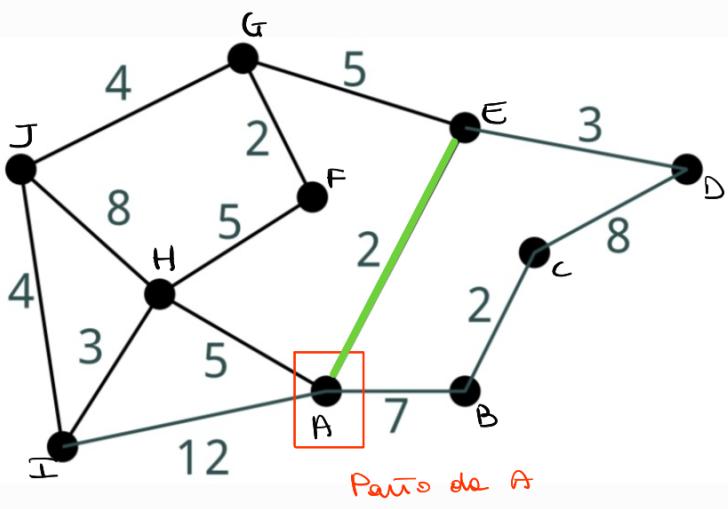
Il peso dell'albero ricoprente è lo stesso
⇒ soluzioni equivalenti

4. Algoritmo di Prim

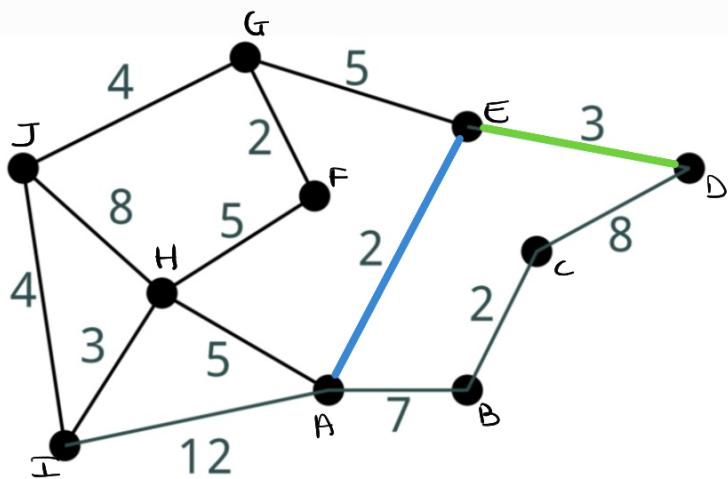
- ▶ strategia di Prim: mantenere un sottografo connesso
- ▶ **MST_Prim(G, s)**

```
 $A \leftarrow \emptyset$ 
 $Q \leftarrow V - \{s\}$ 
while  $Q \neq \emptyset$  do
    scegli l'arco  $(u, v)$  con peso minimo e  $u \in V - Q, v \in Q$ 
     $A \leftarrow A \cup (u, v)$ 
     $Q \leftarrow Q - \{v\}$ 
```

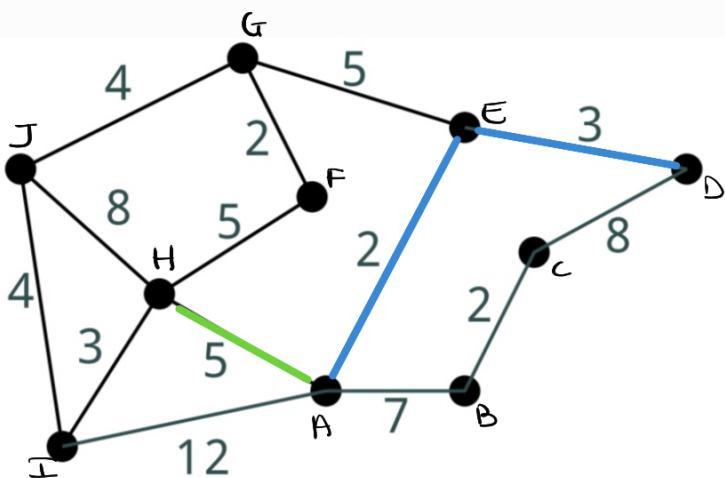
Algoritmo de Prim



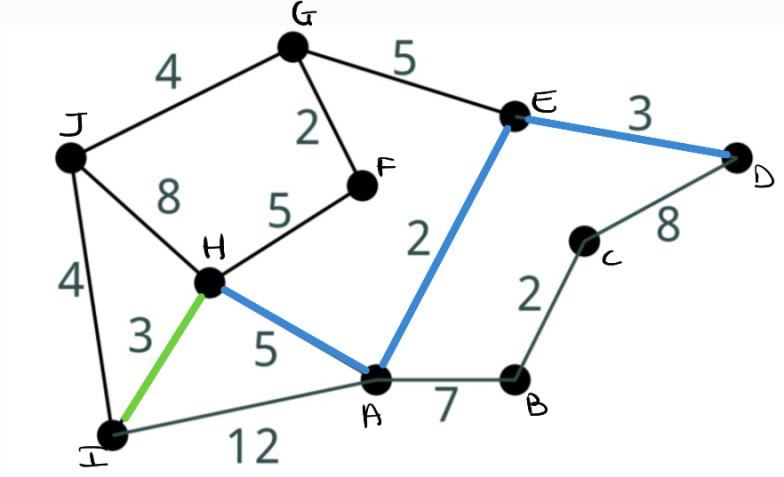
| | |
|---|---------|
| I | : 12, A |
| B | : 7, A |
| E | : 2, A |
| H | : 5, A |



| | |
|--------------|---------|
| I | : 12, A |
| B | : 7, A |
| E | : 2, A |
| H | : 5, A |
| D | : 3, E |
| G | : 5, E |

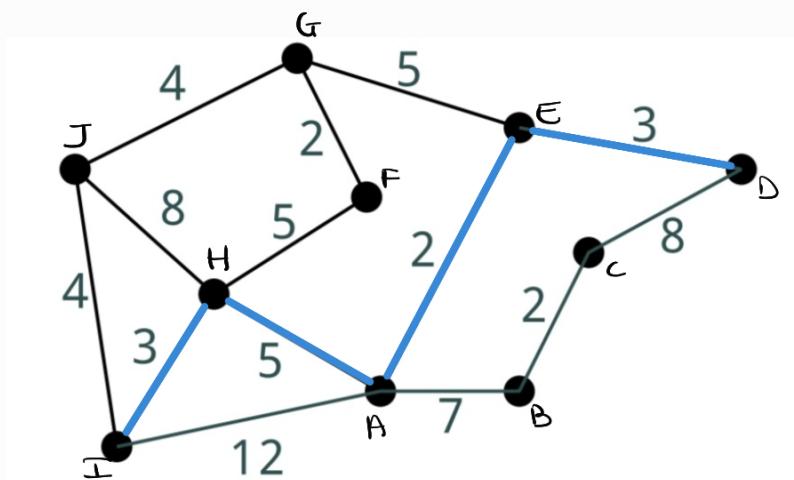


| | |
|--------------|---------|
| I | : 12, A |
| B | : 7, A |
| E | : 2, A |
| H | : 5, A |
| D | : 3, F |
| G | : 5, E |
| C | : 8, D |



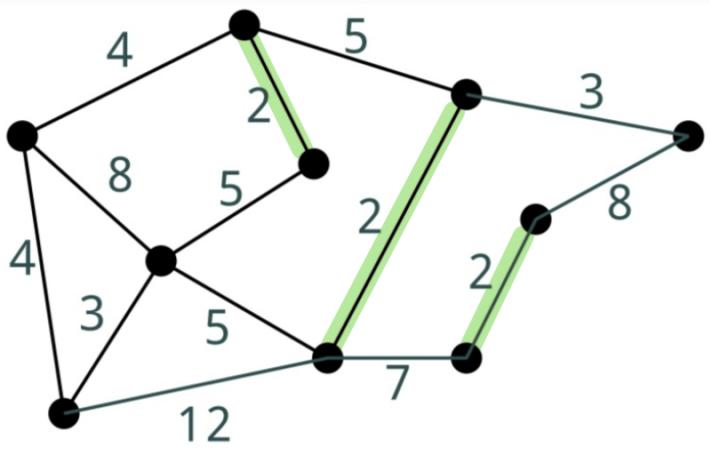
sou escrevo ↴

| | |
|---|-------------------------|
| I | : 12, A 3, H |
| B | 7, A |
| E | 2, A |
| H | 5, A |
| D | 3, E |
| G | 5, E |
| C | 8, D |
| F | 5, H |
| J | 8, H |



| | |
|---|----------------------|
| I | 3, H |
| B | 7, A |
| E | 2, A |
| H | 5, A |
| D | 3, E |
| G | 5, E |
| C | 8, D |
| F | 5, H |
| J | 8, H 4, I |

ALGORITMO DI KRUSKAL



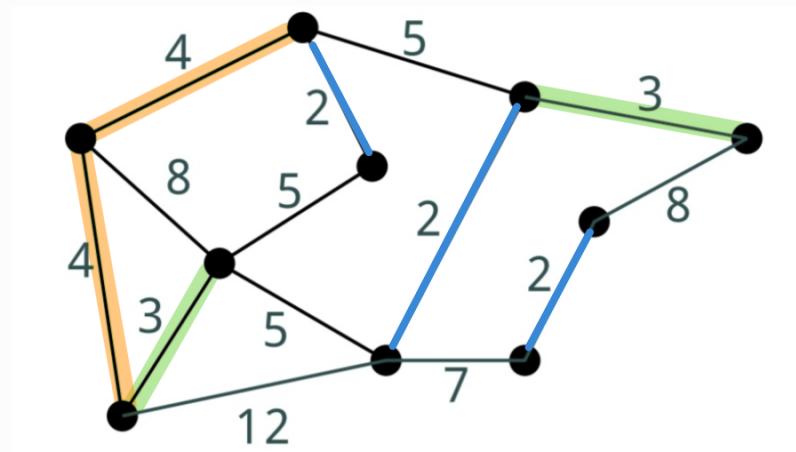
Scelgo anche
sicuri



in ordine crescente
di peso

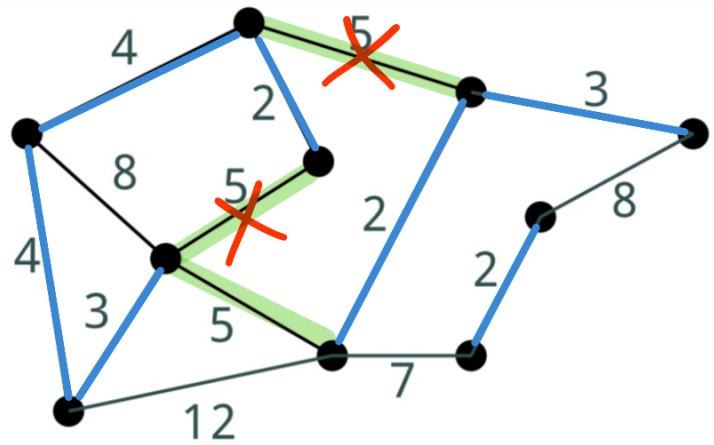
(in questo caso passo alle
quelli da 2)

Appena trovo un arco che crei un ciclo, lo ignoro

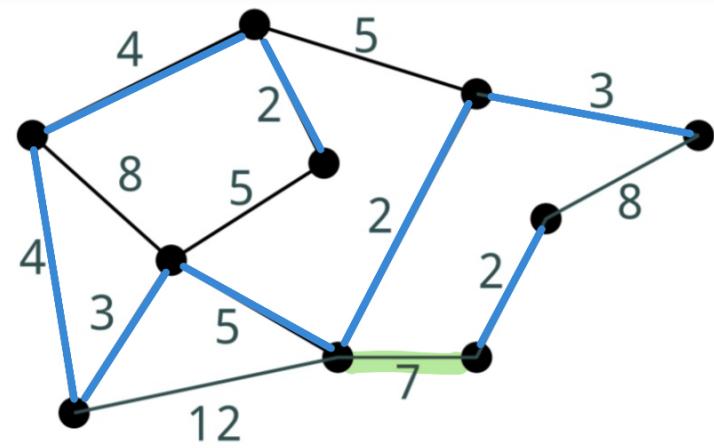


Ora passo a quelli
da 3, verificando
che non c'è più un
ciclo

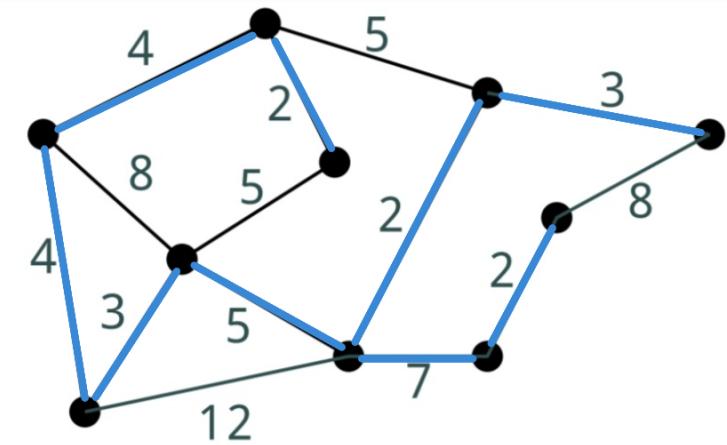
Anche con quelli da 4
tutto ok



Penso a quelli da 5
→ non tutti vanno bene

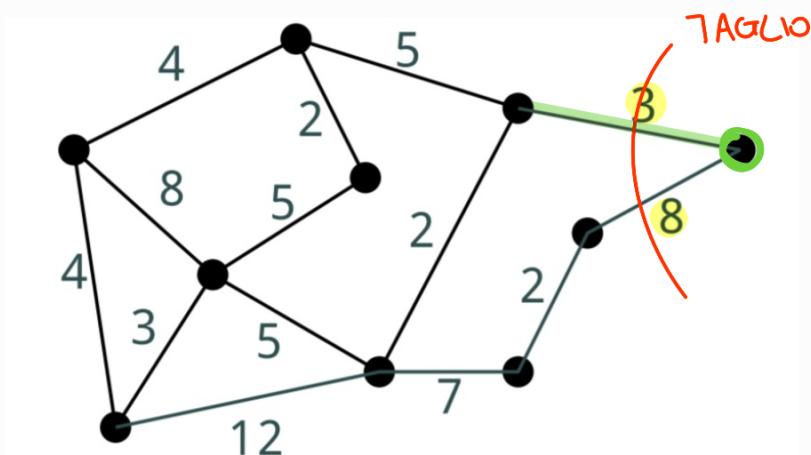


Penso a 7 e ho
ricoperto tutti i nodi
✓

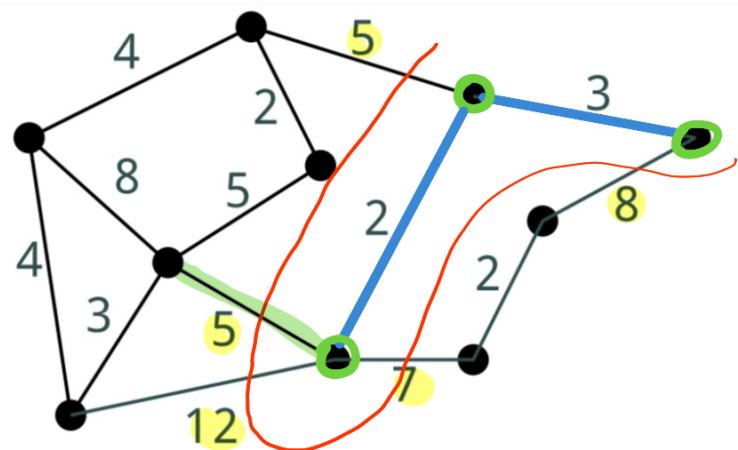
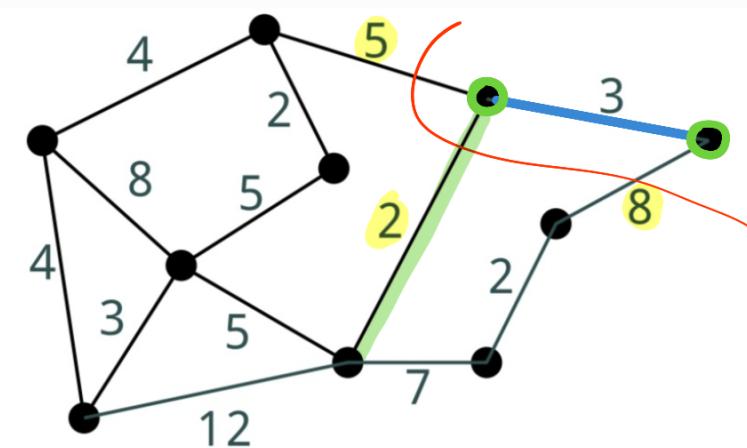


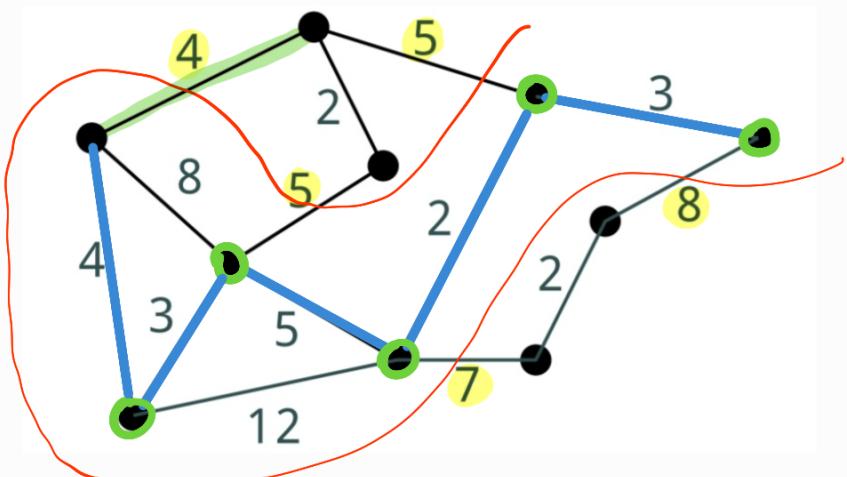
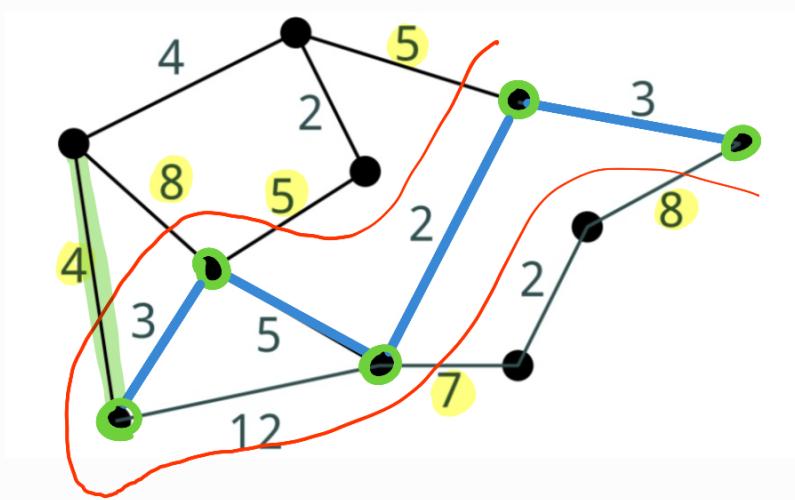
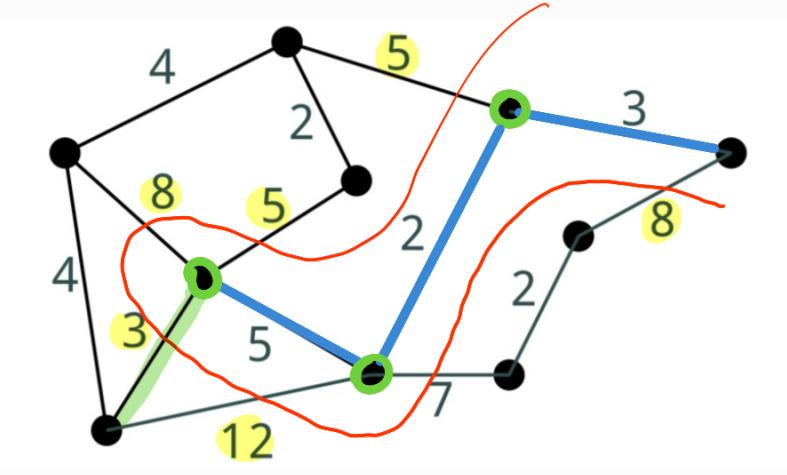
$W = 32$

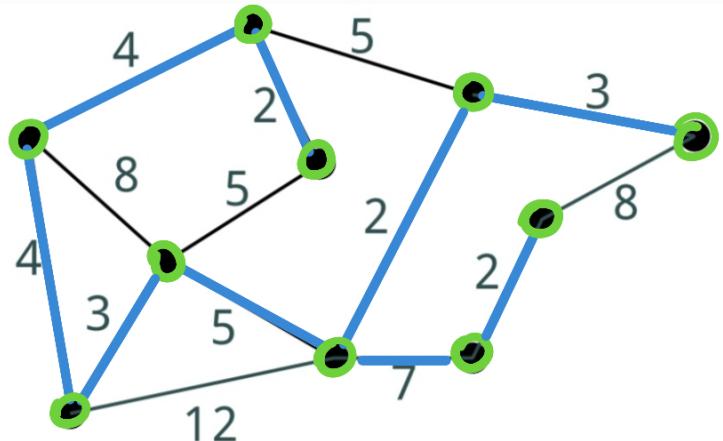
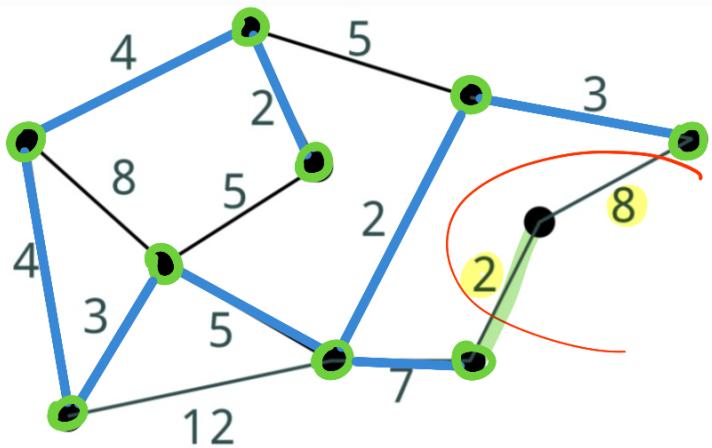
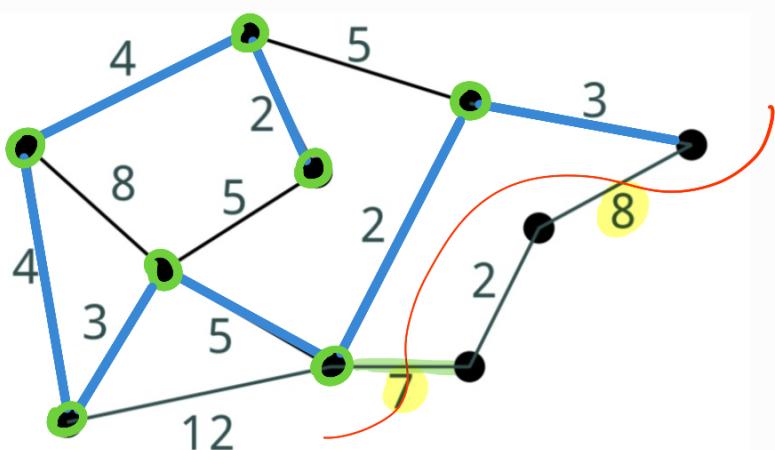
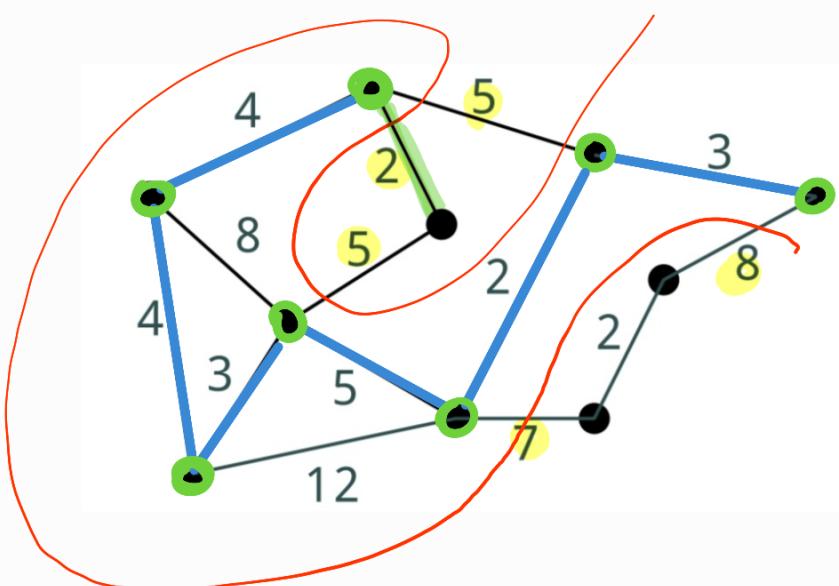
Prim con taglio



● POSSIBILI SCELTE
● Scelta migliore
(più leggero)







FINE