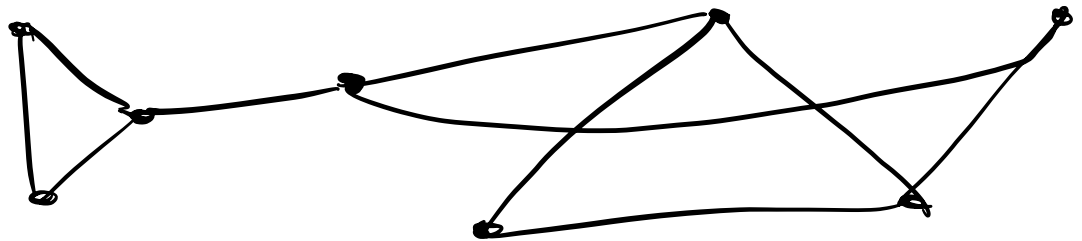


## PROBLEMA DEL TAGLIO MINIMO (MIN CUT)

INPUT:  $G = (V, E)$  grafo non orientato

OUTPUT:  $\emptyset \subsetneq S \subsetneq V$

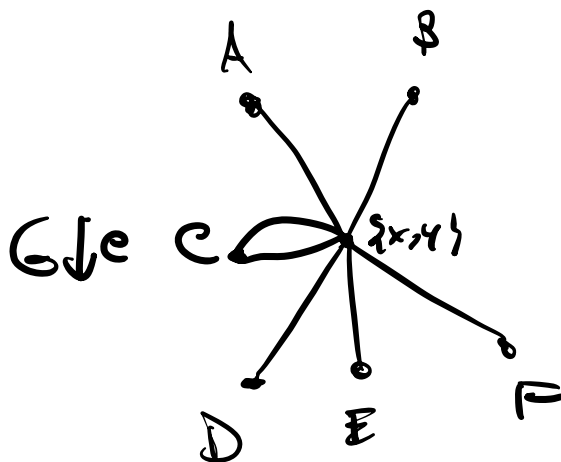
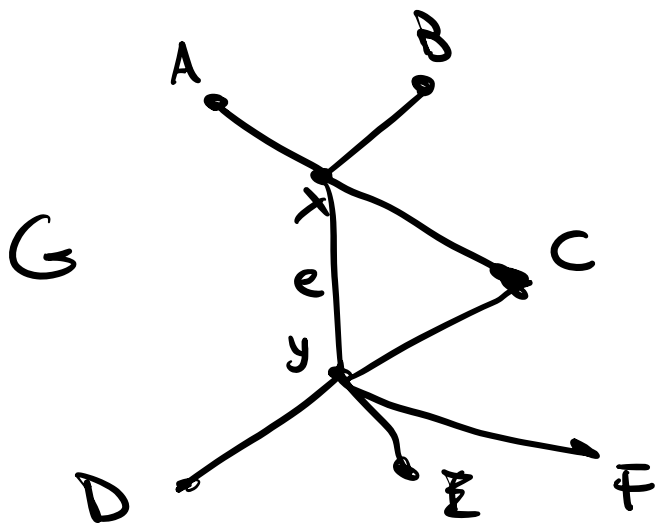
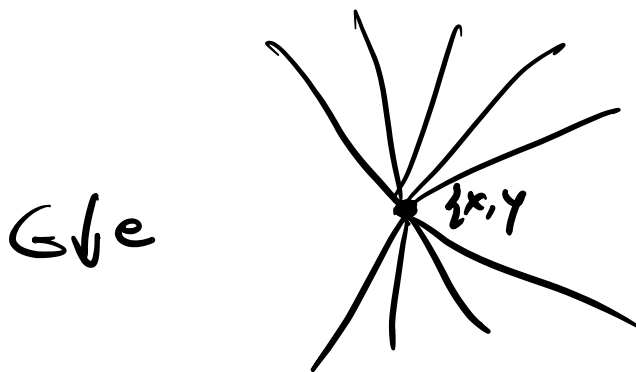
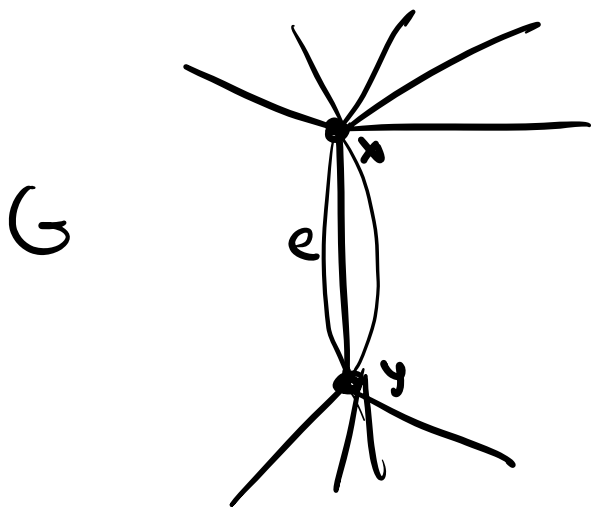


FUNZ. OBIETTIVO:  
 $|\{e \mid e \cap S \neq \emptyset, e \cap S^c \neq \emptyset\}|$

TIPO: MIN

# ALGORITMO DI KARGER

## CONTRAZIONE DI UN LATO (MULTIGRADO)



## ALGORITMO DI KARGER

- Se il grafo non è connesso, output (una qualunque componente connessa)

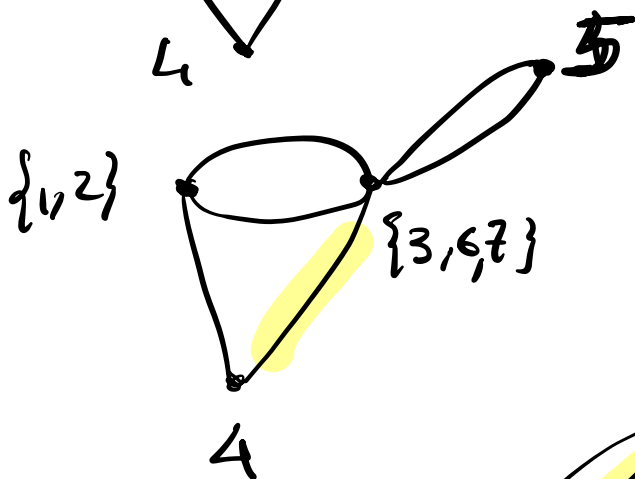
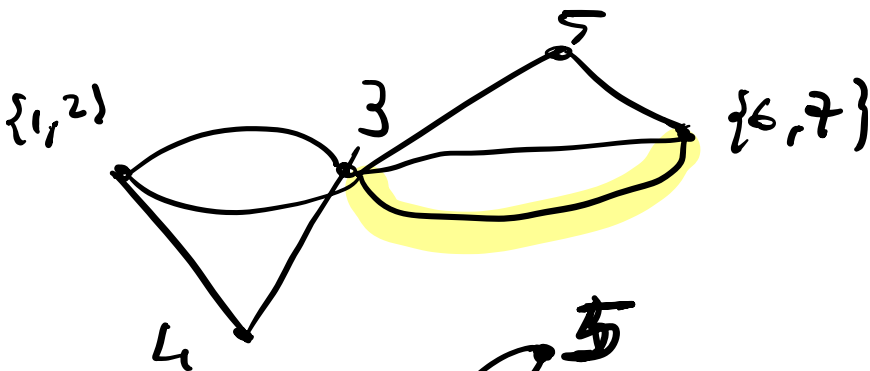
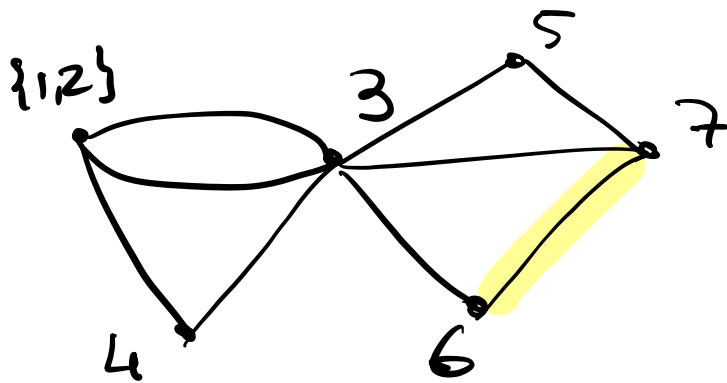
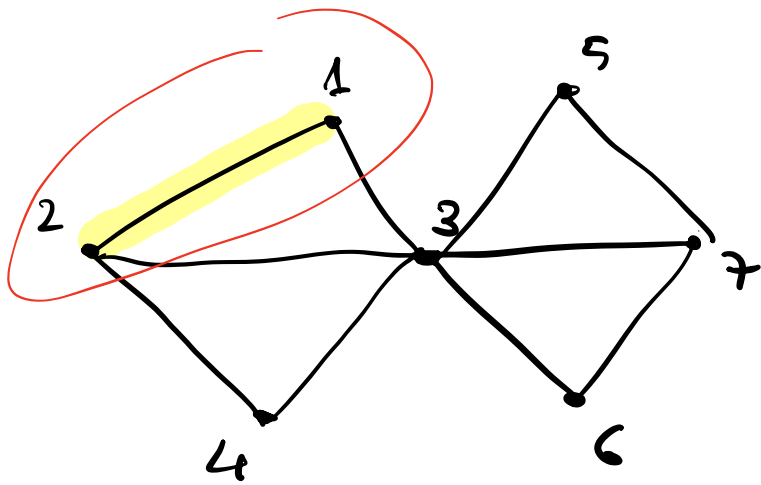
- Altrimenti

while  $|V| > 2$

- scegli un lato a caso
- contrailo

... vertice: mincut

- Emetti uno dei due vertici



2.23



{3, 4, 5, 6, 7}

Teorema: L'algoritmo di Karver  
trova il taglio minimo  
con probabilità  $\geq \frac{1}{\binom{n}{2}}$ .