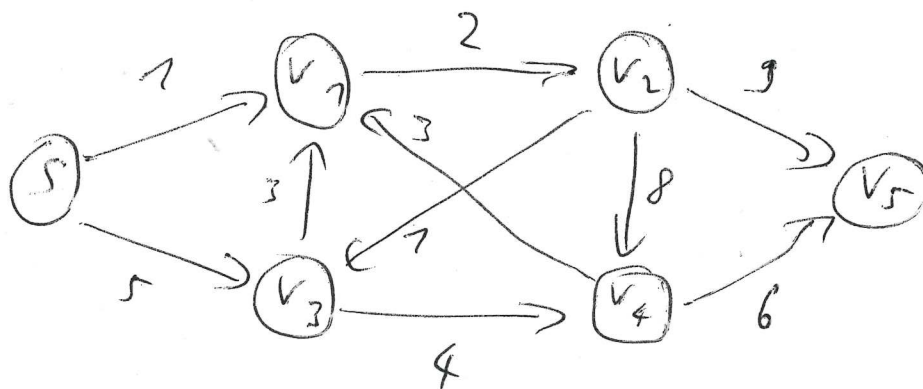
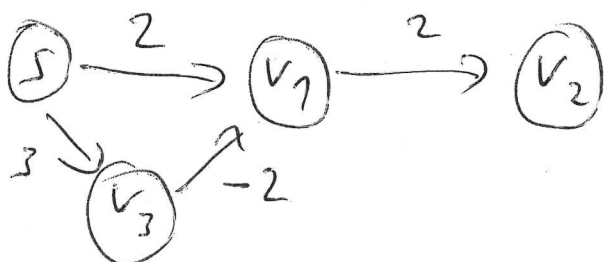


Single Source Shortest Path



7

Single Source Shortest Path

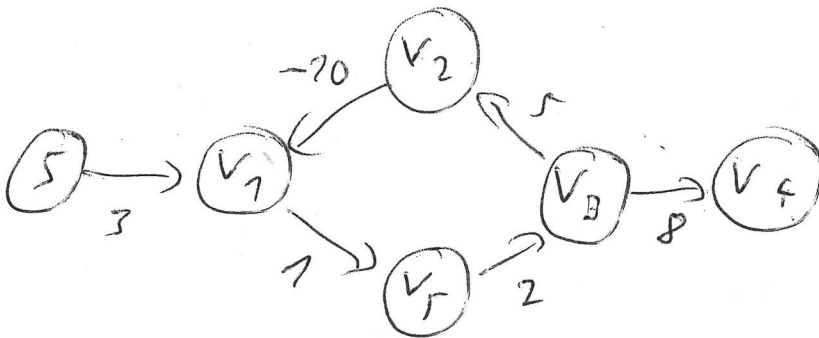


2

3

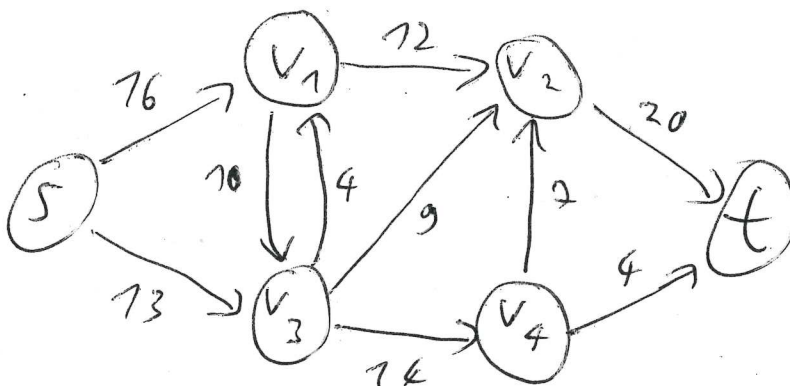
Single Source Shortest Path

4



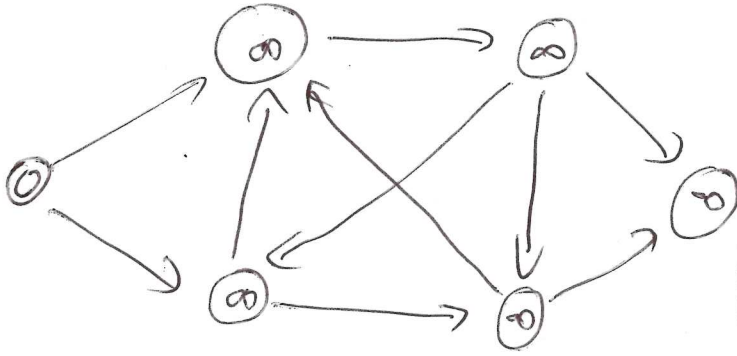
Maximaler Fluss

5

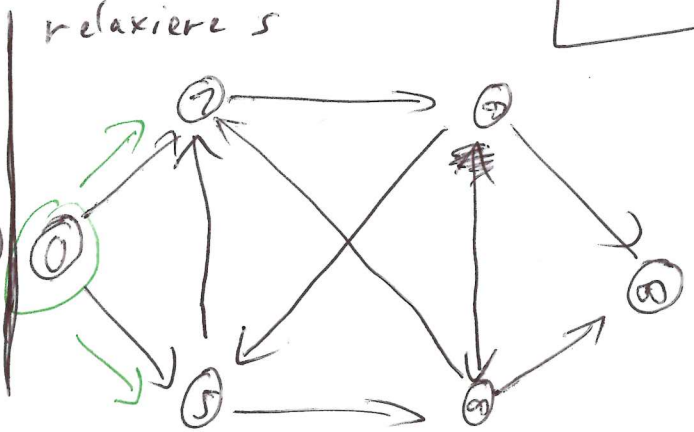


Dijkstra

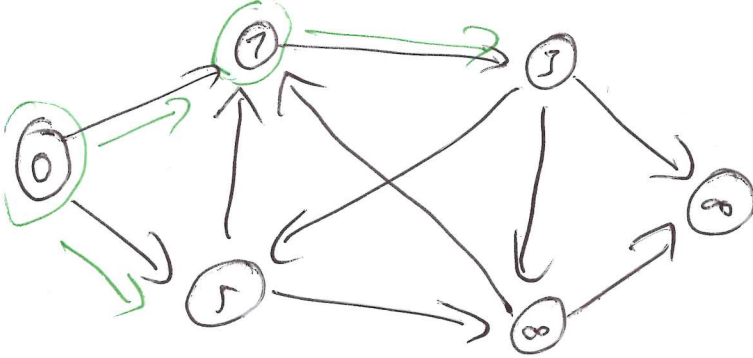
initialisieren



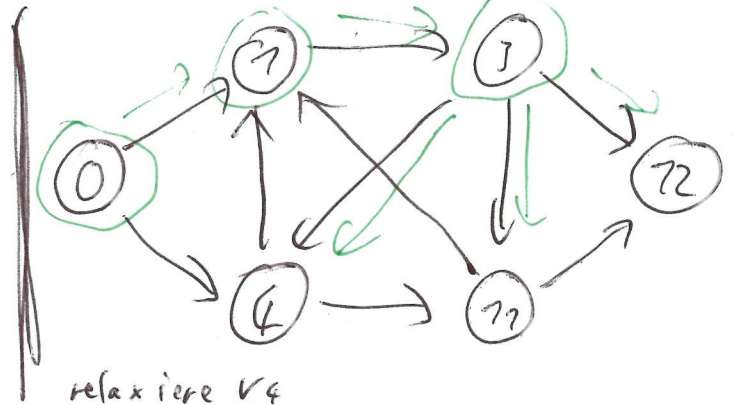
relaxiere 5



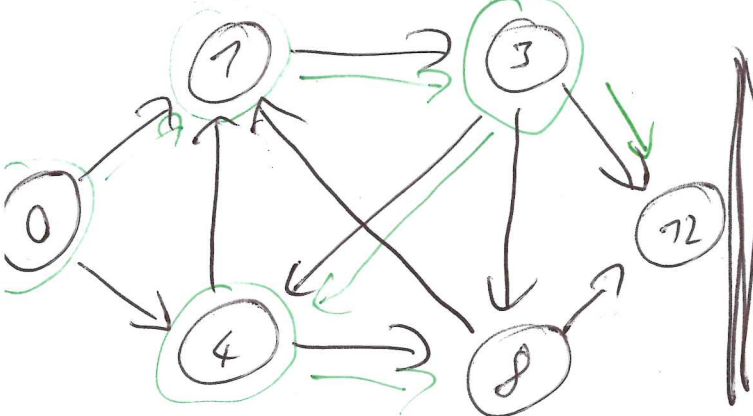
relaxiere v_1



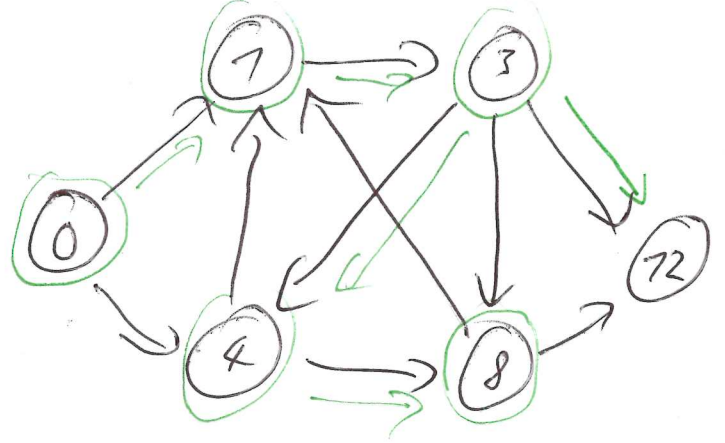
relaxiere v_2



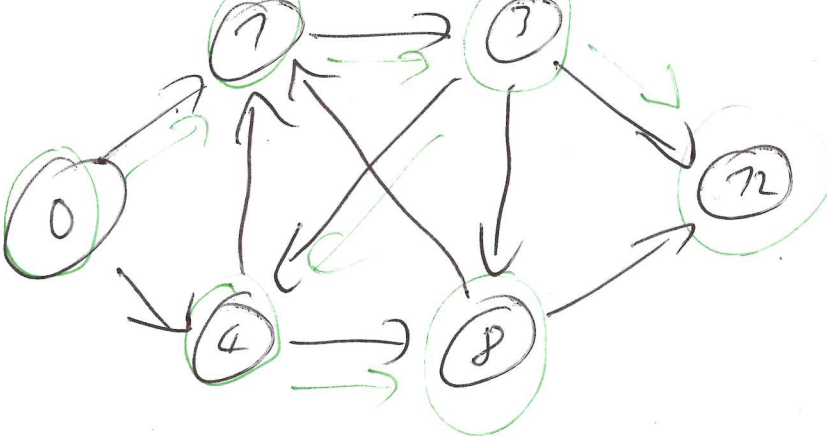
relaxiere v_3



relaxiere v_4



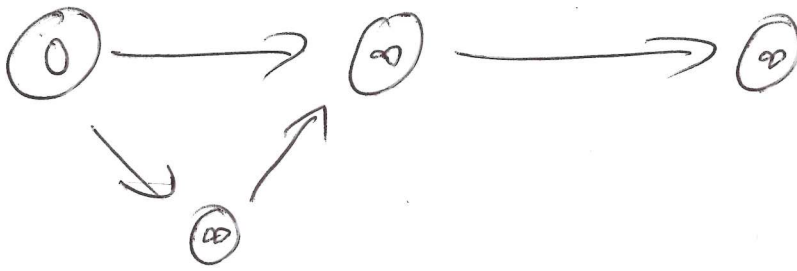
relaxiere t



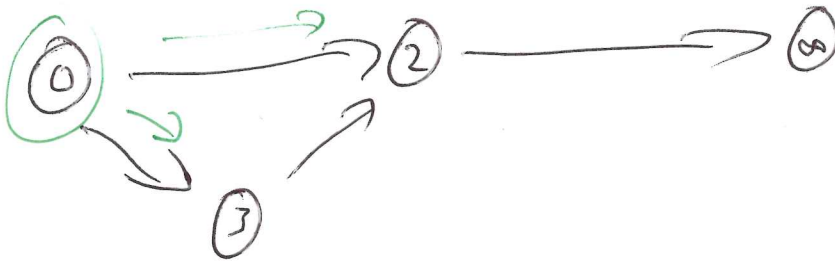
Dijkstra (schlägt fehl bei negativer Distanz)

2

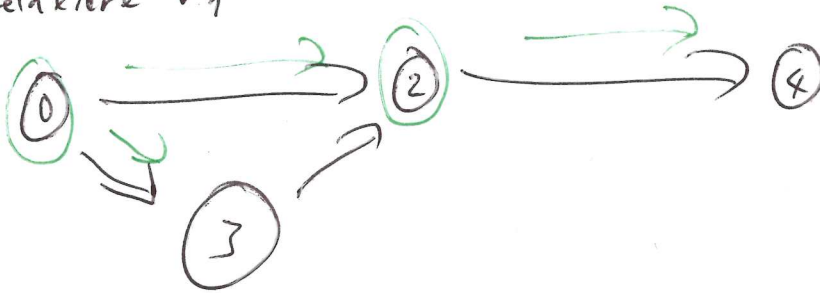
initialisieren



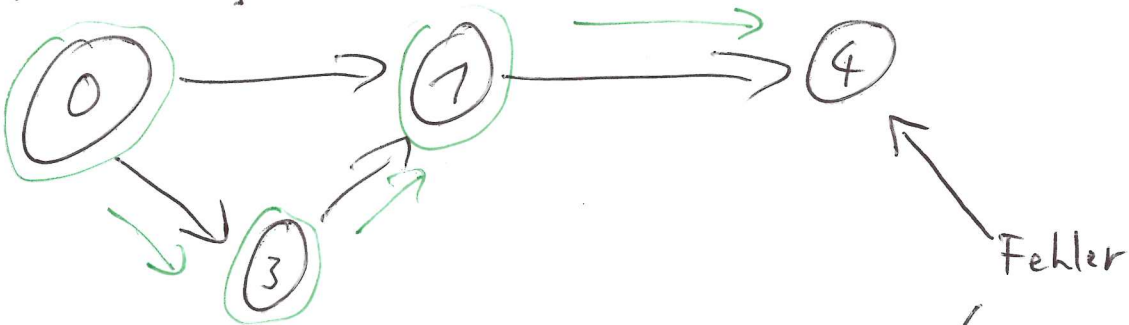
relaxiere s



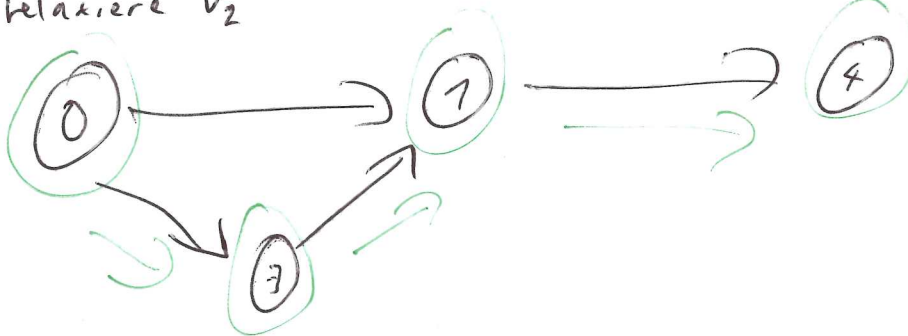
relaxiere V_1



relaxiere V_2

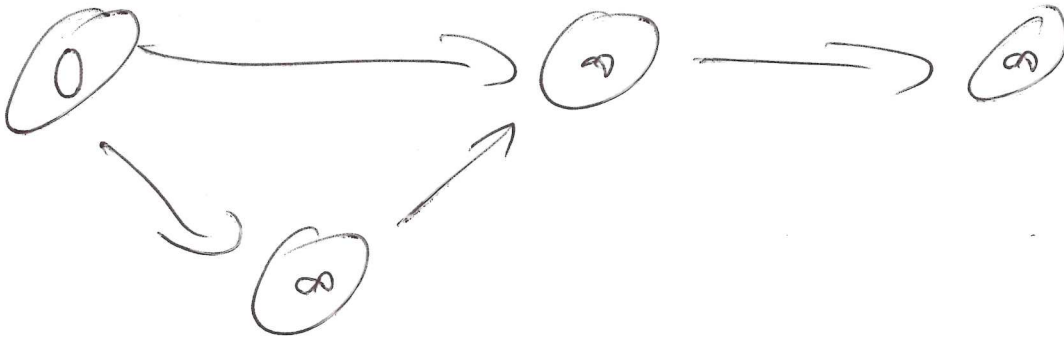


relaxiere V_2



Bellman Ford

initialisierung

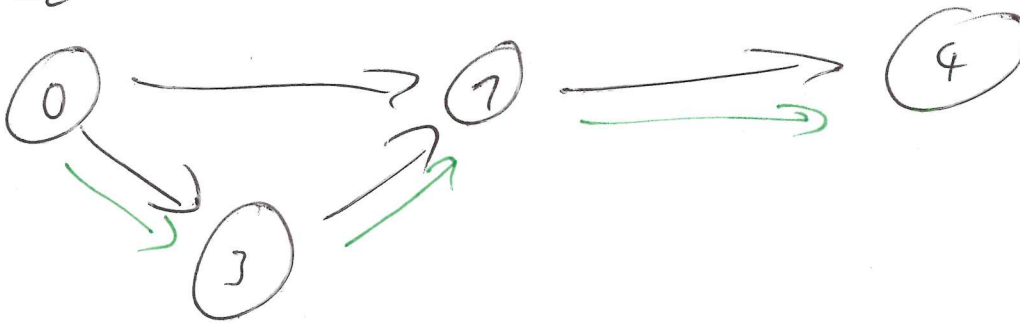


3

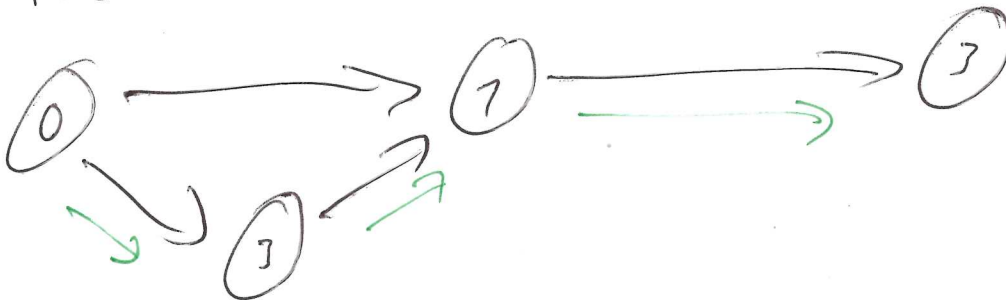
$i=1$



$i=2$



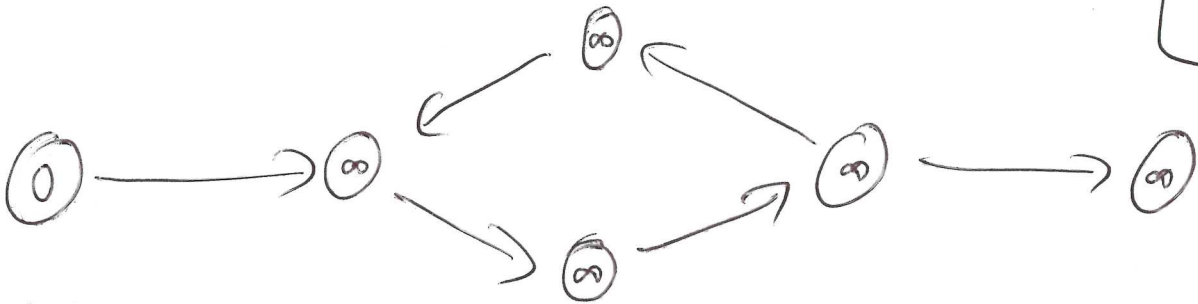
$i=3$



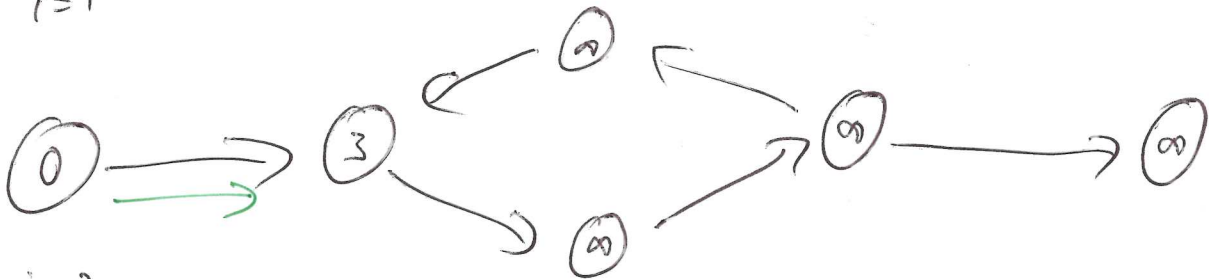
Bellman Ford (schliefte fehl bei negativem Zykel)

initialisieren

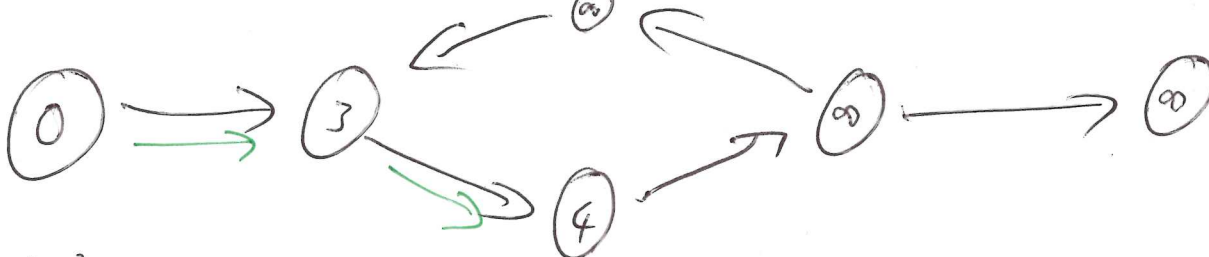
4



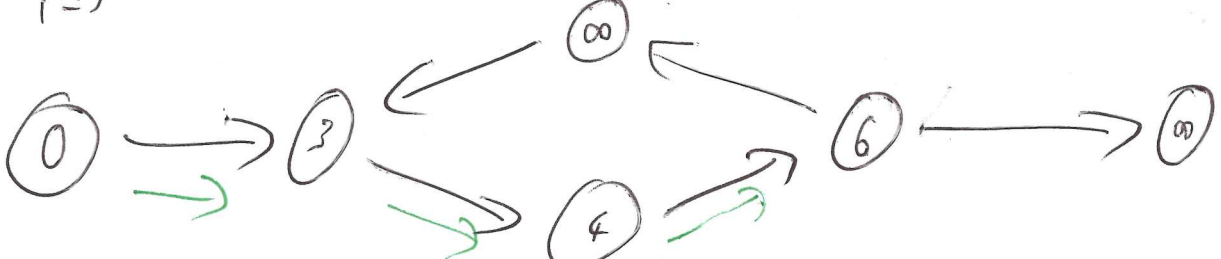
i=1



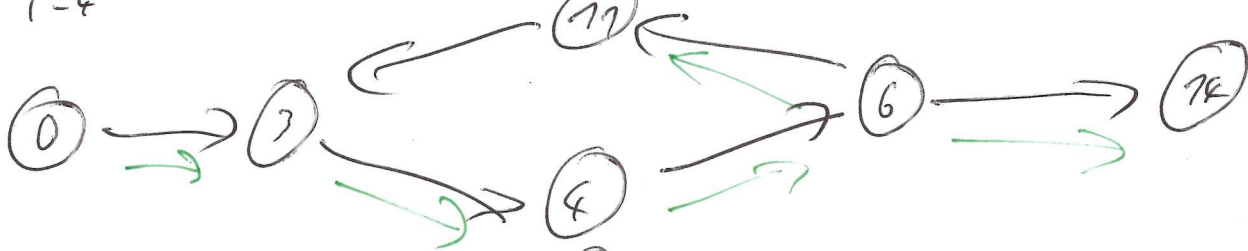
i=2



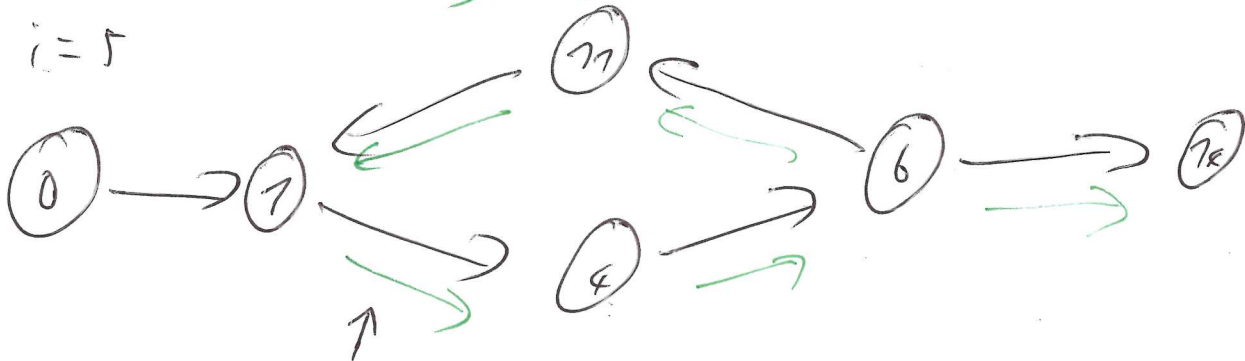
i=3



i=4

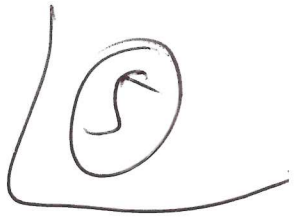


i=5



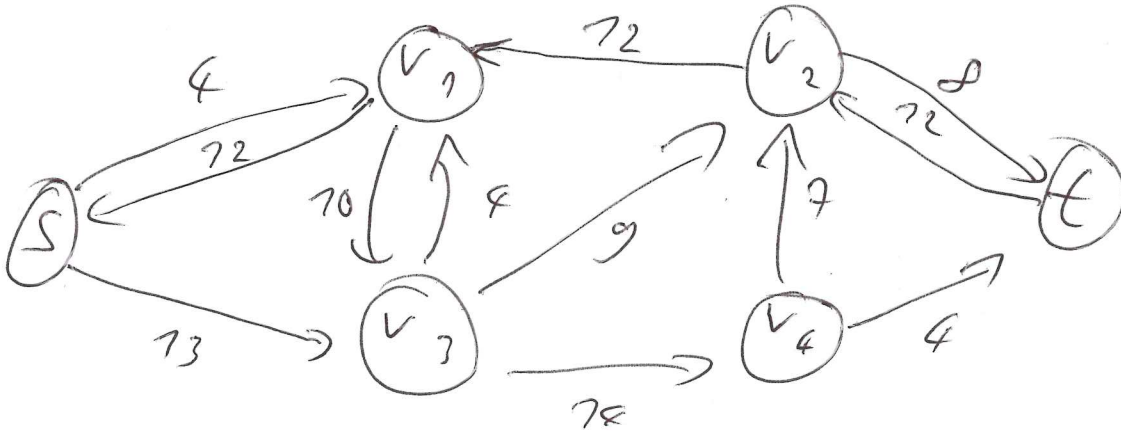
$4 > 1+1 \Rightarrow \text{Fehler}$

Ford Fulkerson



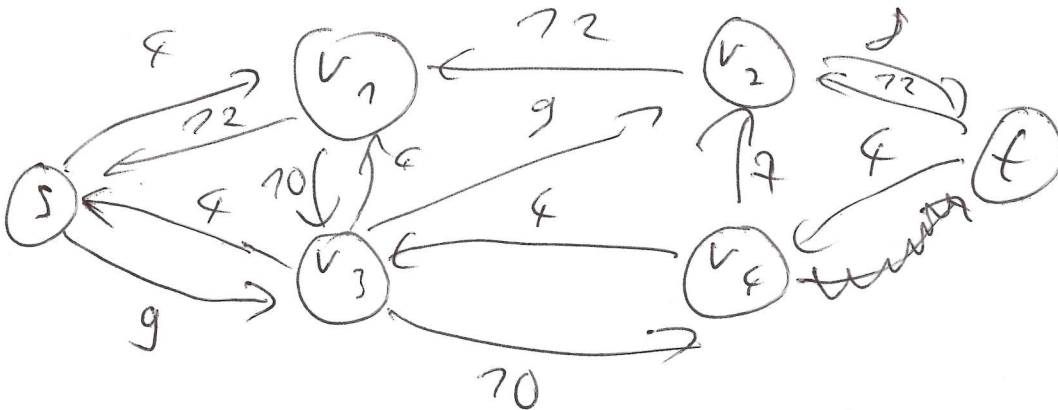
$s \rightarrow v_1 \rightarrow v_2 \rightarrow t$

12



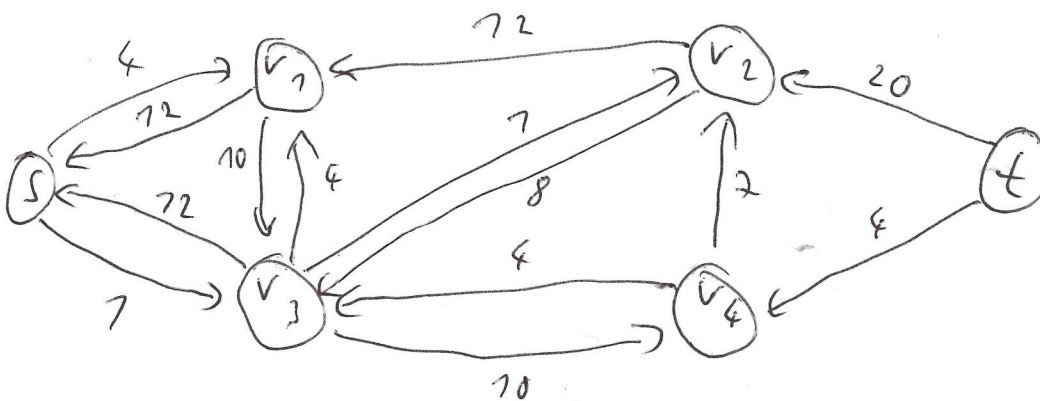
$s \rightarrow v_3 \rightarrow v_4 \rightarrow t$

4



$s \rightarrow v_3 \rightarrow v_2 \rightarrow t$

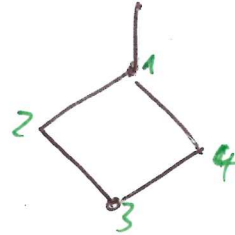
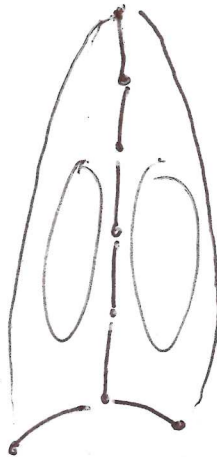
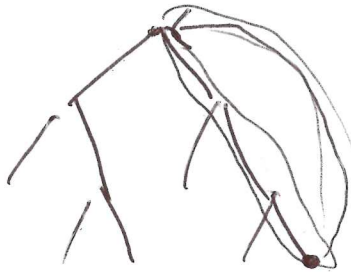
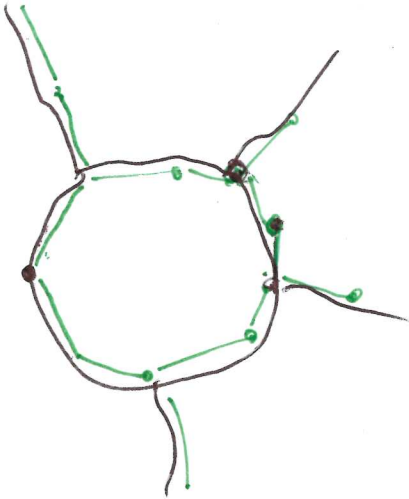
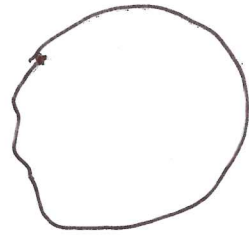
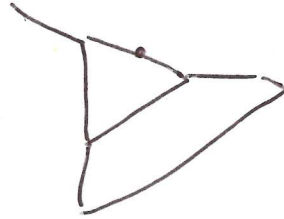
8

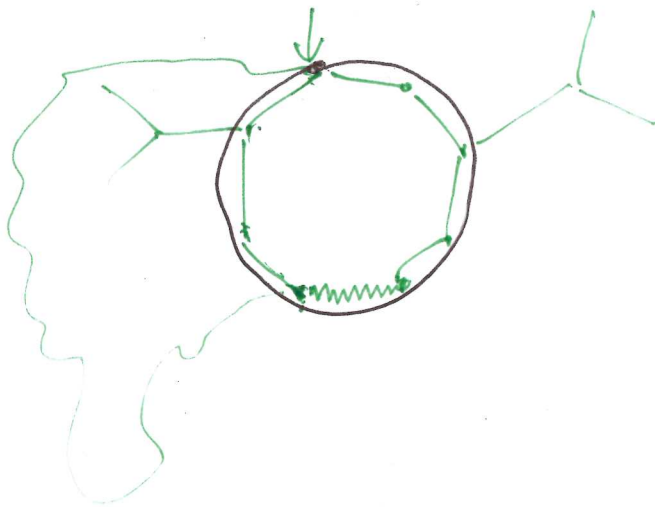


$\Rightarrow$ maximaler Fluss, da kein augmentierender Pfad mehr

Eingabe: ungerichteter ^{ungegewichteter} Graph G

Frage: Was ist die Länge des kürzesten Kreises?





For $v \in V$:

make Breitensuche

wenn man Knoten findet, der schon
besucht wurde und kein Elternknoten
ist, gebe den Kreis aus



for $(u, v) \in E$

Dijkstra, um kürzesten
Pfad von ~~u~~ u nach
v in $G \setminus (u, v)$