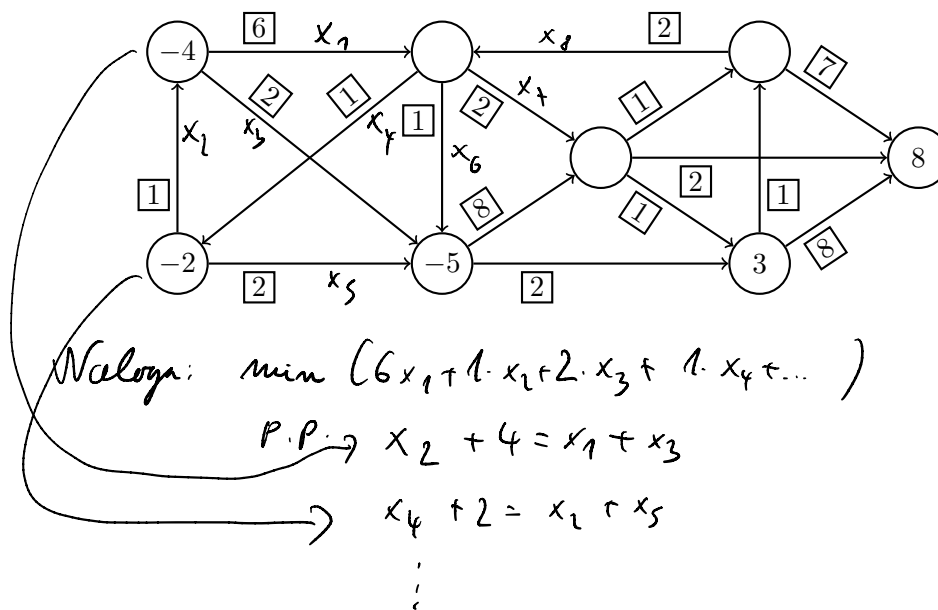
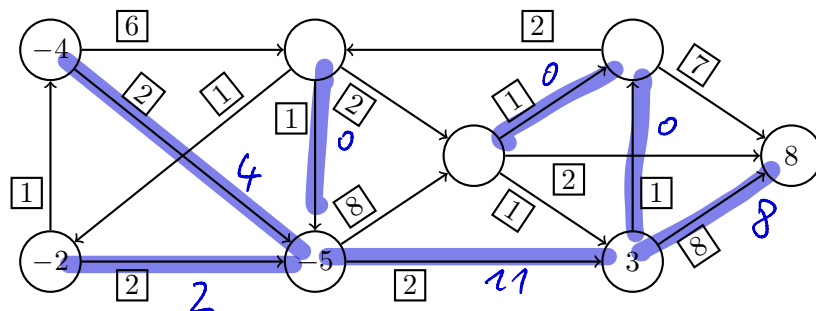


1. Reši problem razvoza na grafu s simpleksno metodo za omrežje.



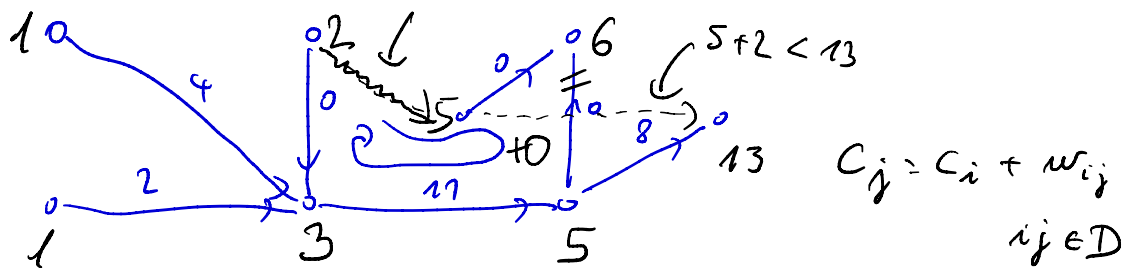
1. Reši problem razvoja na grafu s simpleksno metodo za omrežje.



Dopustna rešitev. Potrditveno drvo.

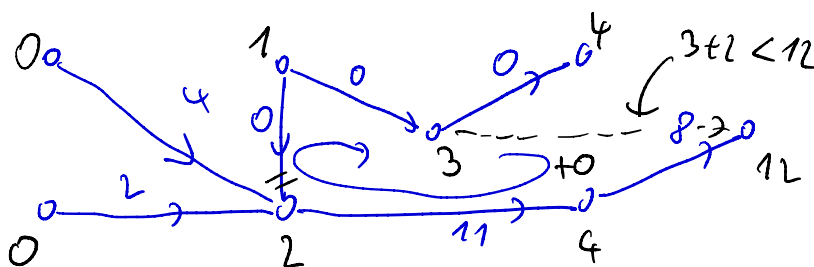
$$D.D.R. \rightarrow \text{cena} = 2 \cdot 4 + 2 \cdot 2 + 1 \cdot 11 + 8 \cdot 8 + 1 \cdot 0 + 1 \cdot 0 + 1 \cdot 0 = \underline{98}$$

$$2 + 1 < 5$$

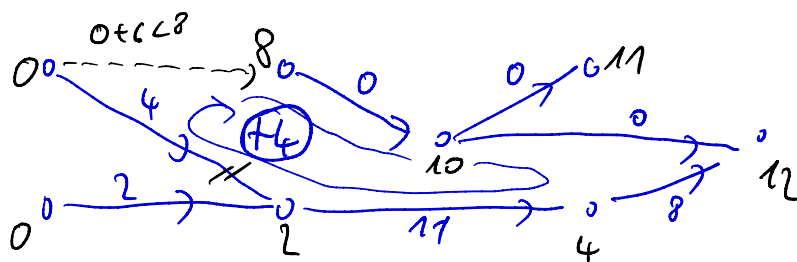


Bližnjica: $C_i + w_{ij} < C_j$ $ij \notin D$

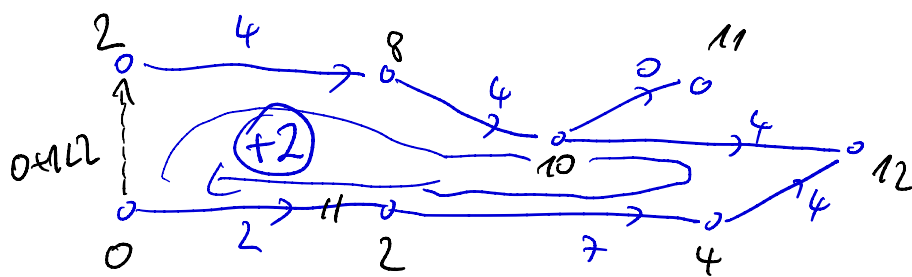
Dobim cikel, pregledam porzave ~ nasprotno smer, prištem najmanjšo, za toliko porzavam razvor po ciklu. Ena točka novih udeležencev.



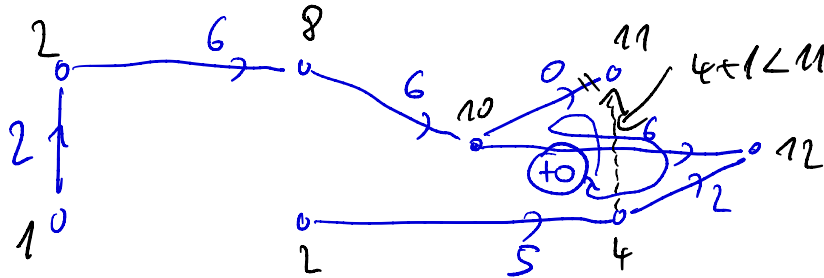
$$DDR, \text{ cena} = 98$$



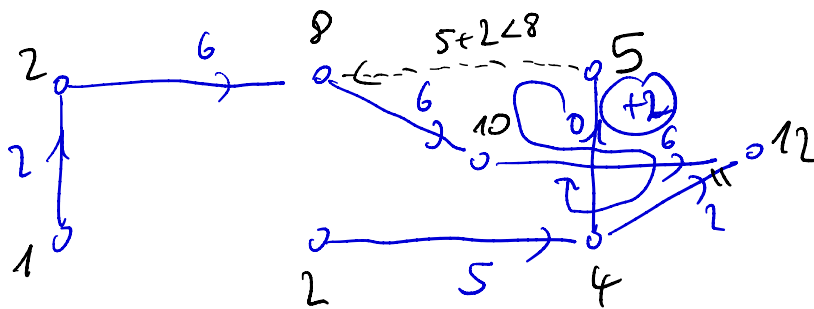
$$DDR, \text{ cena} = 98$$



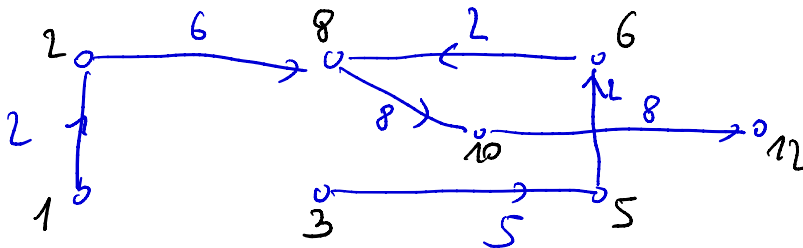
DDR, 8-6
přiblíží
cena = $88 - 2 - 4$
↑
klic.
na cíli
cena = 90



$$cena = 90 - 1 \cdot 2 = 88$$



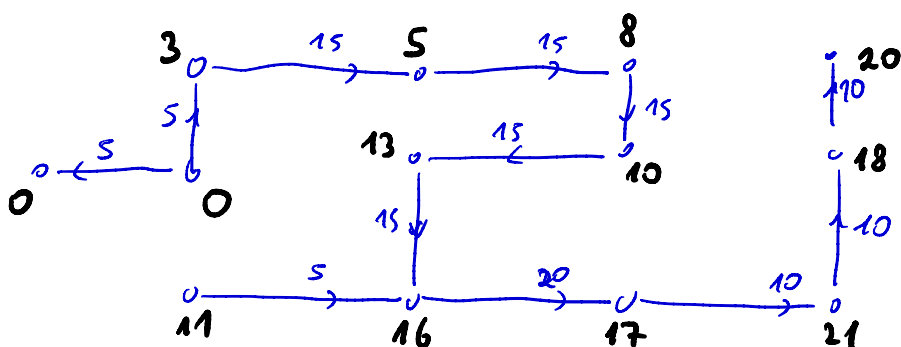
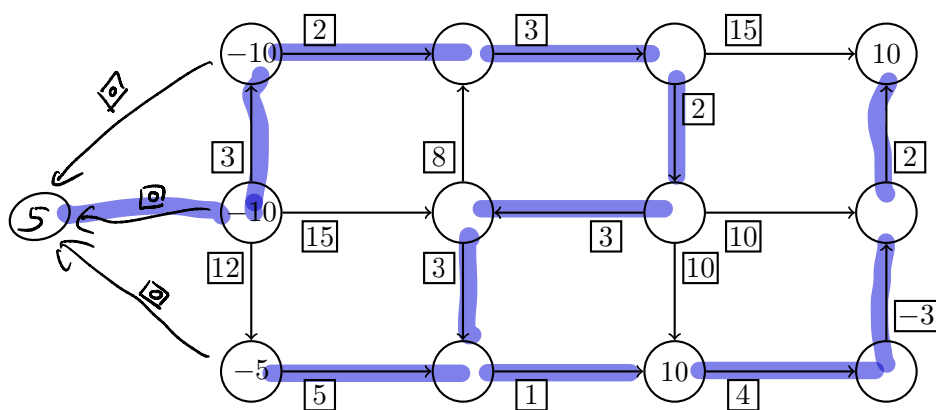
$$cena = 88$$



$$cena = 88 - 1 \cdot 2 = \underline{86}$$

Už nic bližšího $\Rightarrow$ opt. řešení!!

2. Reši problem razvoza na grafu s simpleksno metodo za omrežje. Pazi na skupno povpraševanje in ponudbo!

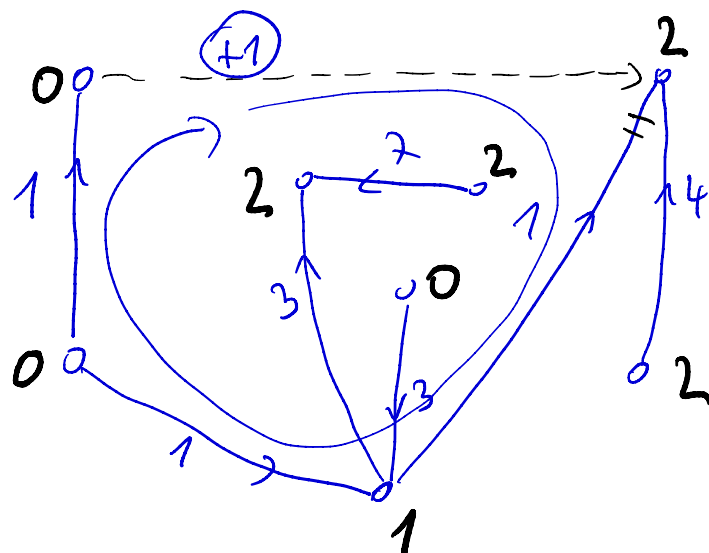
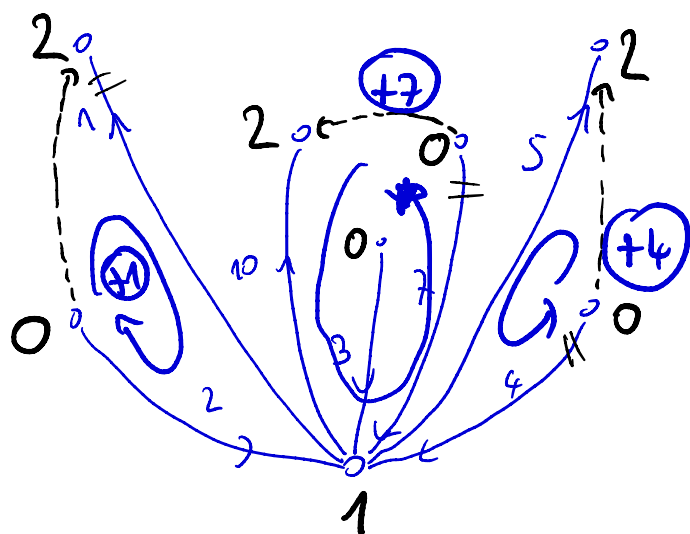
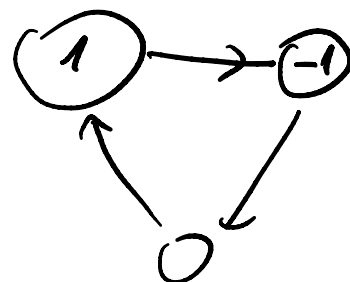
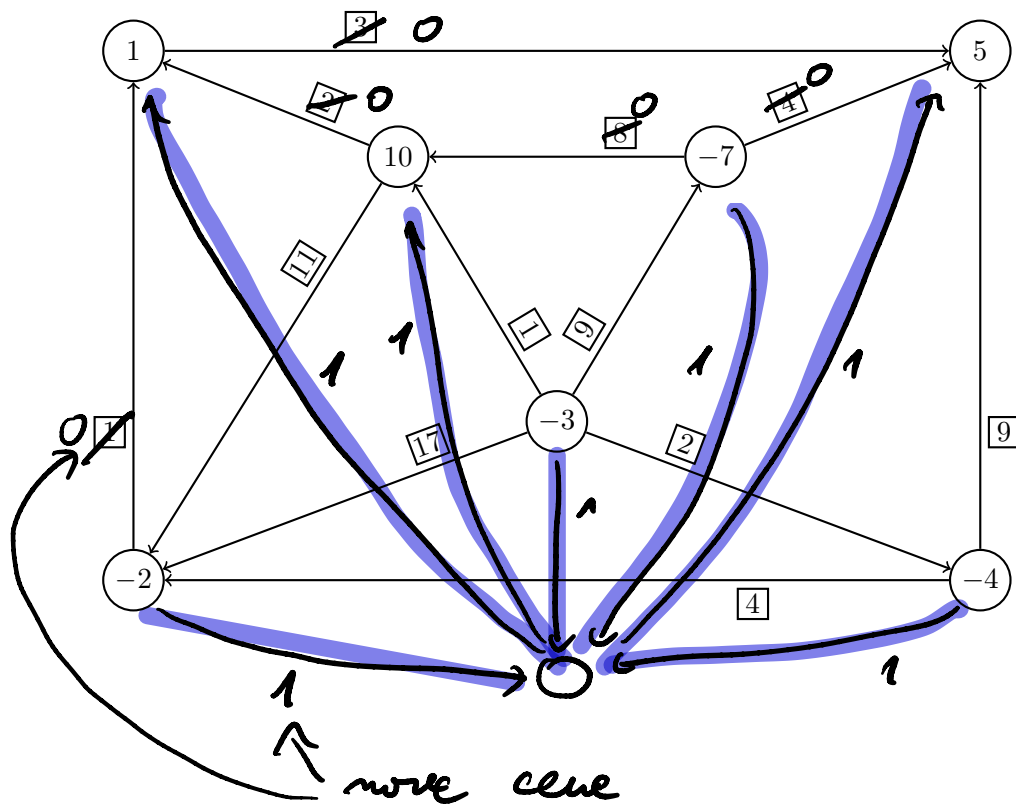


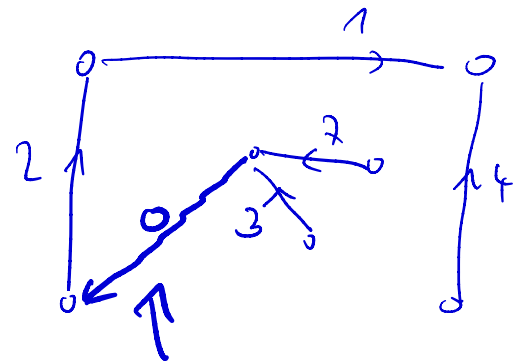
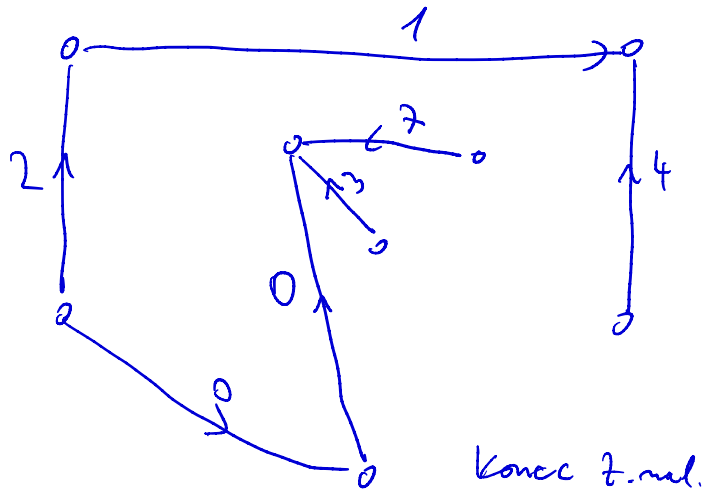
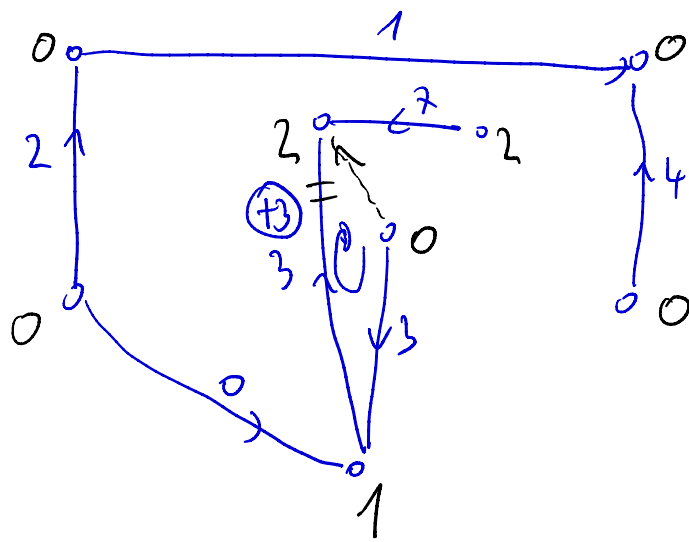
Wi bližnjic $\Rightarrow$ optimalno !!

$$C_{ena} = \frac{5 \cdot 0 + 5 \cdot 3 + 15 \cdot 2 + 15 \cdot 3 + 15 \cdot 2 + 15 \cdot 3 + 15 \cdot 3}{195} + \frac{5 \cdot 5}{40} + \frac{20 \cdot 1 + 4 \cdot 10 + (-3) \cdot 10 + 2 \cdot 10}{50} = 285$$

3. Reši problem razvoja na grafu z dvofazno simpleksno metodo za omrežje.

1. faza:

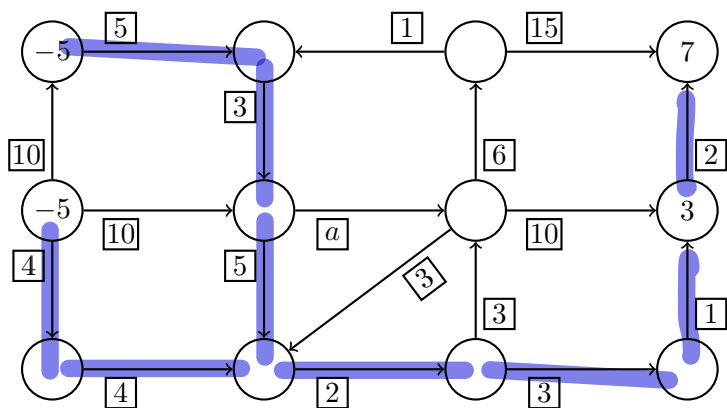




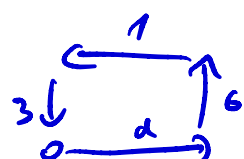
D. d. n.

⇒ 2. fase,
optimizing!!

4. Reši problem razvoja na grafu s simpleksno metodo za omrežje v odvisnosti od parametra a .

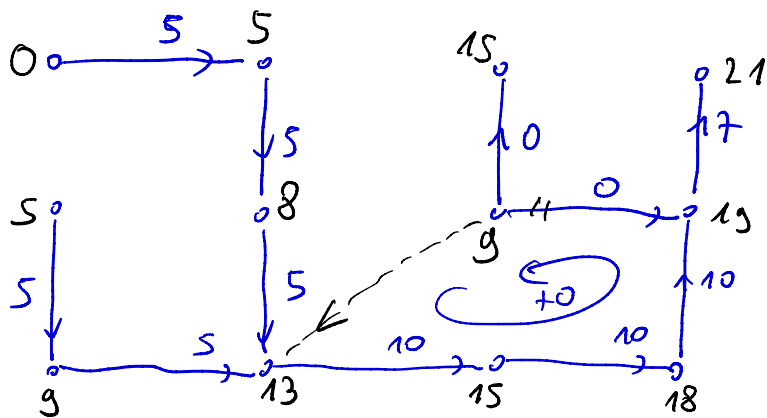
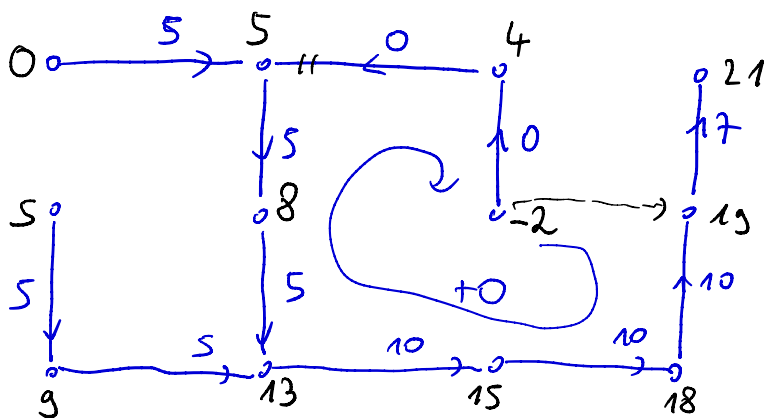


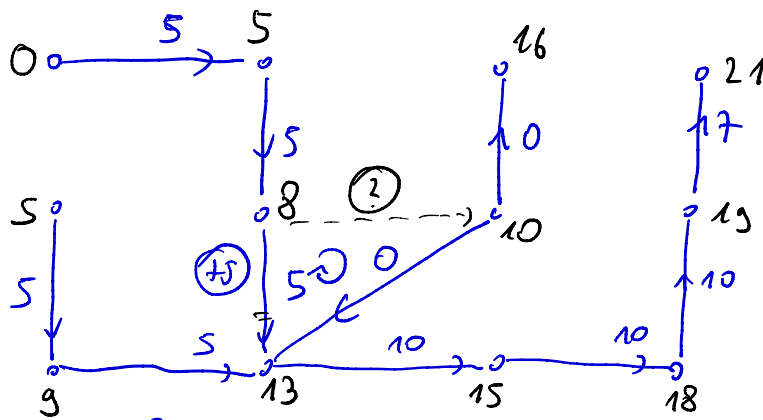
Optim: če je $a < -10$, je



neg. cikel, problem neomejen!!

D.D.R.





Bez [a] ni
blizjice.

$$8+a \geq 10$$

$\Rightarrow$ Tuži 9 [a]
ni blizjice.

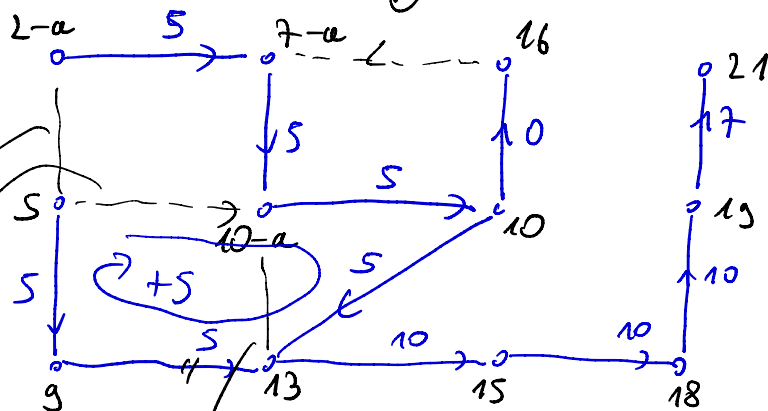
$\Rightarrow$ Opt. rezultat!!

za a ≥ 2

$$\text{Cena} = 5 \cdot 5 + 5 \cdot 3 + 5 \cdot 4 + 5 \cdot 4 + 5 \cdot 5 + 60 + 14 = \underline{\underline{179}}$$

za $a < 2$:

$$16+1 < 7-a \quad a < -10$$



$$5+10 < 10-a$$

$$10-a+5 < 13$$

$$2 < a \text{ ni bl.}$$

$$\underline{a < -5}$$

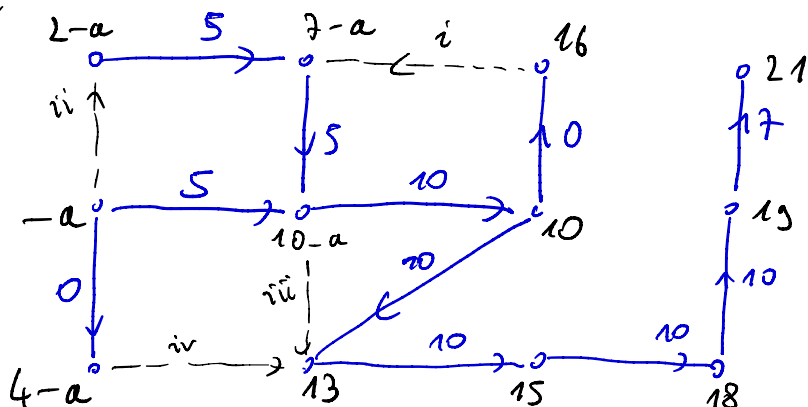
$$5+10 < 2-a$$

$$a < -13$$

Če $a \geq -5$, ni bl., opt.

Če $a < -5$, je bl.

$a < -5$:



$$i) 16+1 < 7-a, a < -10$$

$$ii) -a+10 < 2-a //$$

$$iii) 10-a+5 < 13 \quad a > 2 //$$

$$iv) 4-a+4 < 13 \quad a > -5 //$$

Če $a \geq -10$, je ↑ opt. Če $a < -10$, je nezgodno, $+\infty$