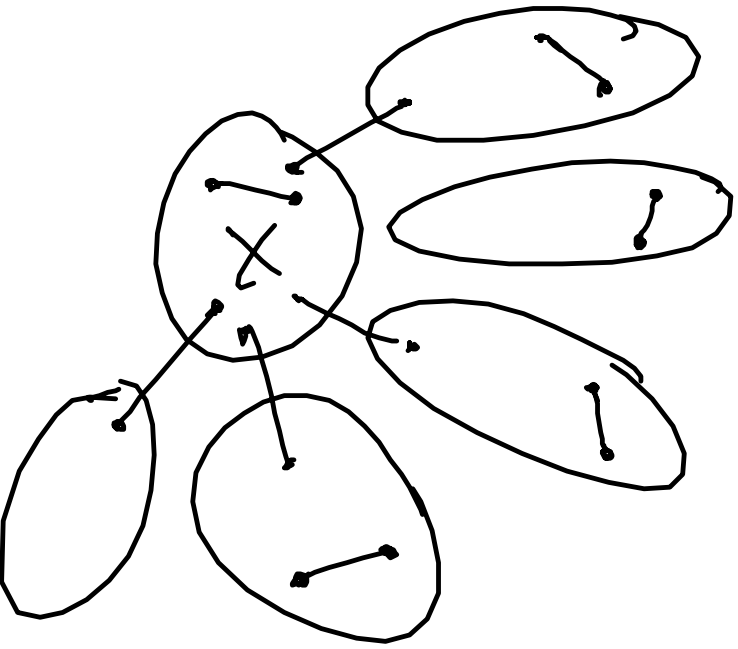
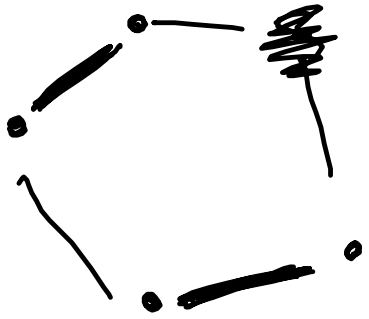
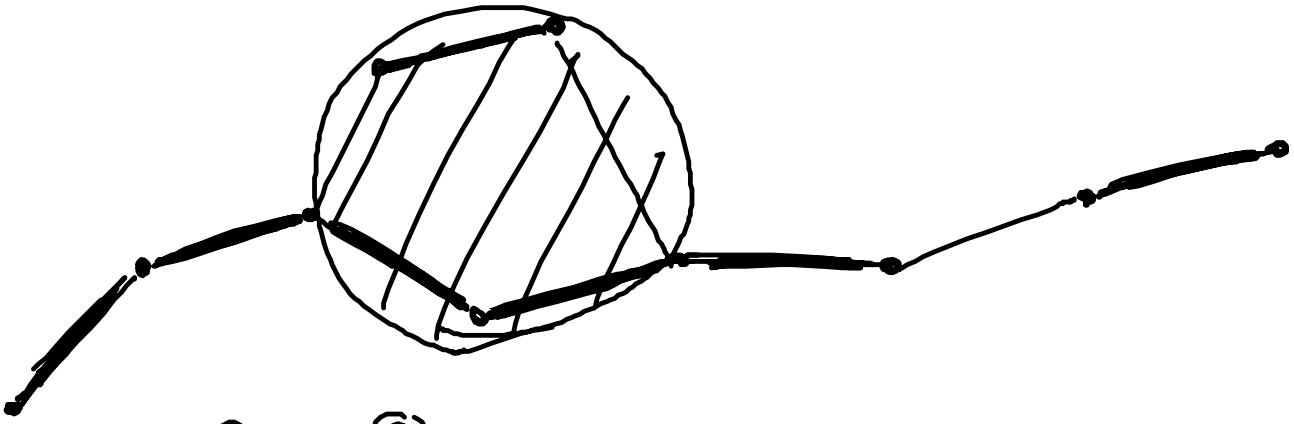
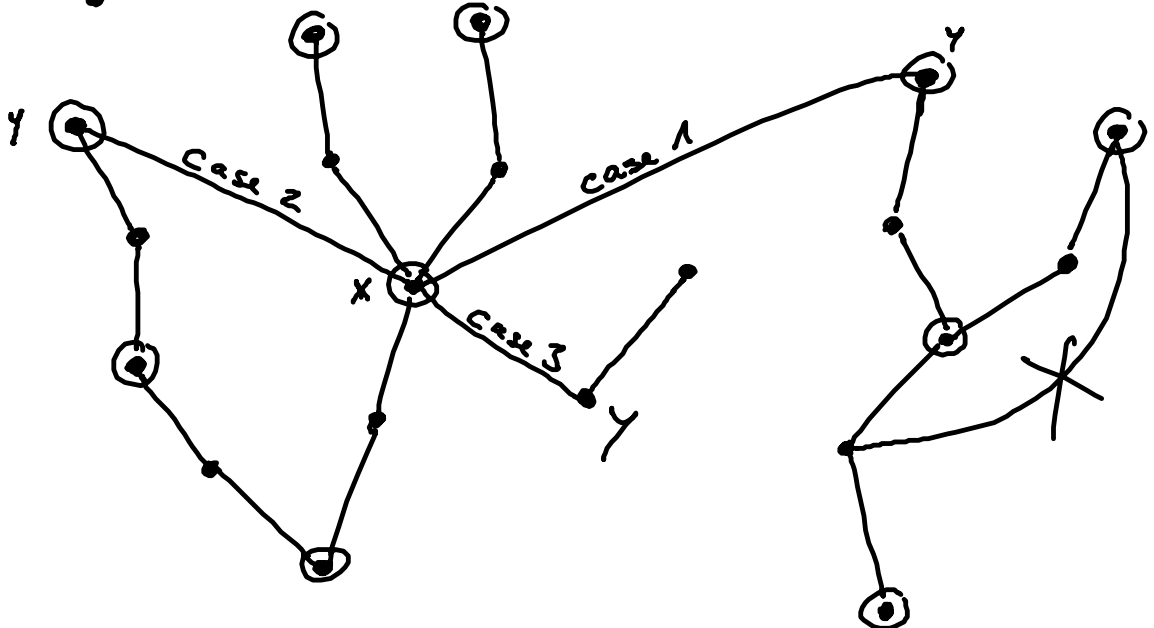
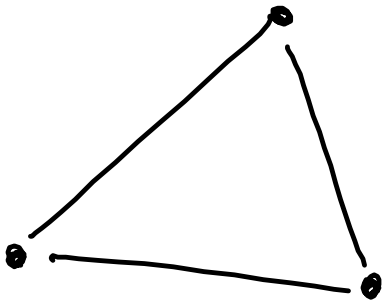

X





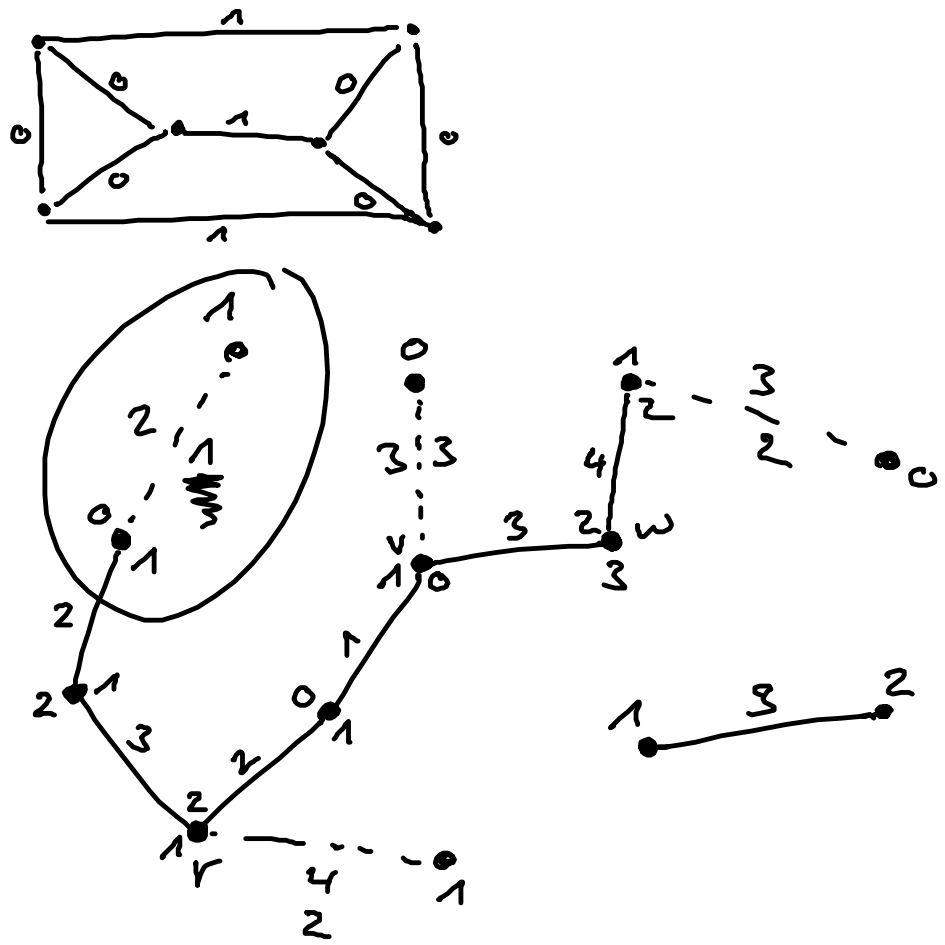

Y
Case 2
Case 1
X
Case 3
Y
Y

$\bigcirc \hat{=}$ outer node



$x \equiv \frac{1}{2}$

Example where LP-value is strictly smaller than IP-optimum:



dual constraints:

$$y_u + y_v \leq c_e \quad \forall e = \{u, v\} \in E$$

Proof of running time in Theorem 13.18:

Matching M increases every $O(n)$ iterations.

M can increase at most $O(n)$ times

$\Rightarrow O(n^2)$ iterations

Every step takes at most $O(m)$ time. $\square$