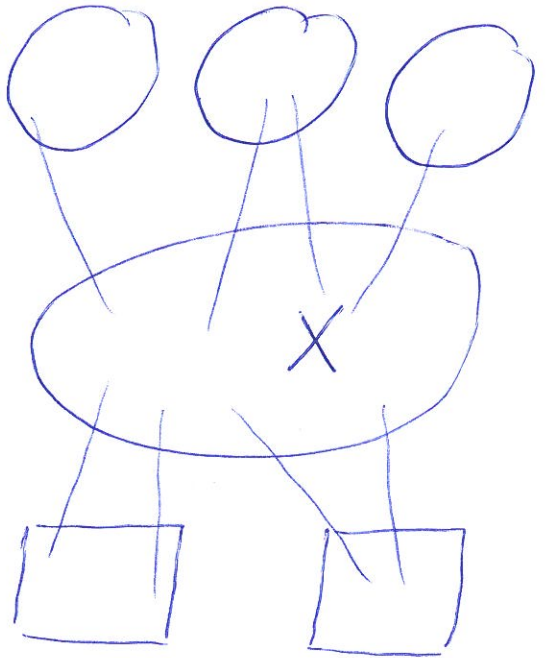


Due date for exercise 4: Friday, 19th of May (before lecture)

Recall: Matching M is maximum \Leftrightarrow no M -augm. path (Thm 13.6)

Obs. 13.10: For all $X \subseteq V$ and all matchings M ,
the number of M -exposed nodes is at
least $q_G(X) - |X|$.

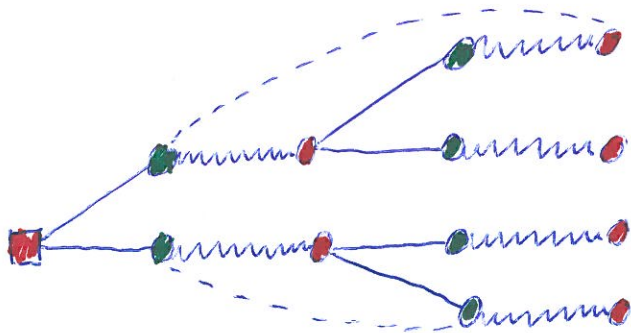


Tutte-Berge Formula (Thm 13.11):

Exist $X \subseteq V$ and matching M with
exactly $q_G(X) - |X|$ M -exposed nodes.
By Obs 13.10, this M is maximum.

Finding augmenting paths:

Idea: grow M -alternating trees, starting from M -exposed nodes.



In bipartite graphs (no odd circuits): we find an M -augmenting path after at most $|E|$ steps, or we know that M is maximum.