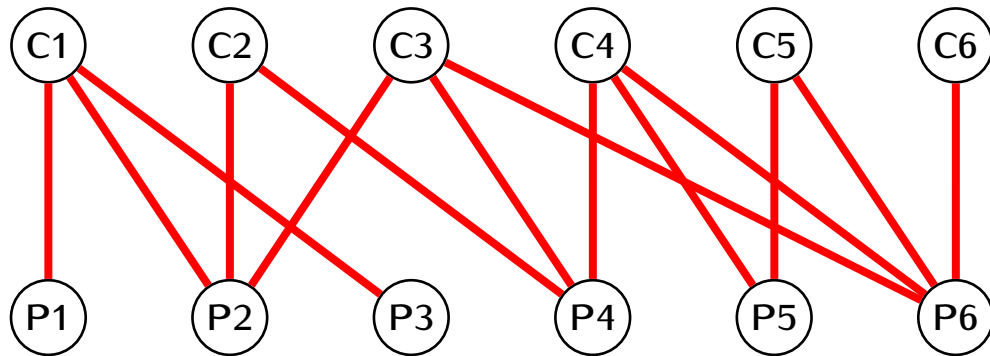
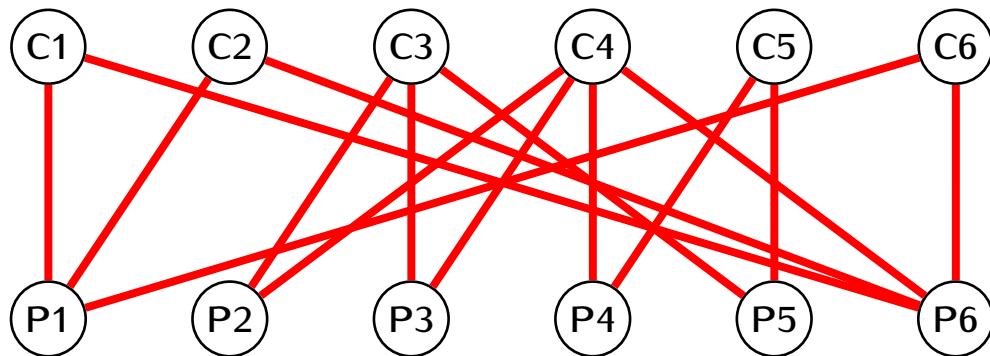


Example.



Example.



## König's Theorem

Consider an assignment problem matching job candidates  $C_1, \dots, C_n$  with positions  $P_1, \dots, P_m$ . Assume that there exists a number  $k > 0$  such that

- for each  $i = 1, \dots, m$  there are at least  $k$  candidates who applied for the position  $P_i$
- each candidate  $C_j$  applied for at most  $k$  positions.

Then the assignment problem has a solution. That is, it is possible to match each position with a job candidate, in such way that every position is filled and each job candidate has at most one position.

**Proof.**

