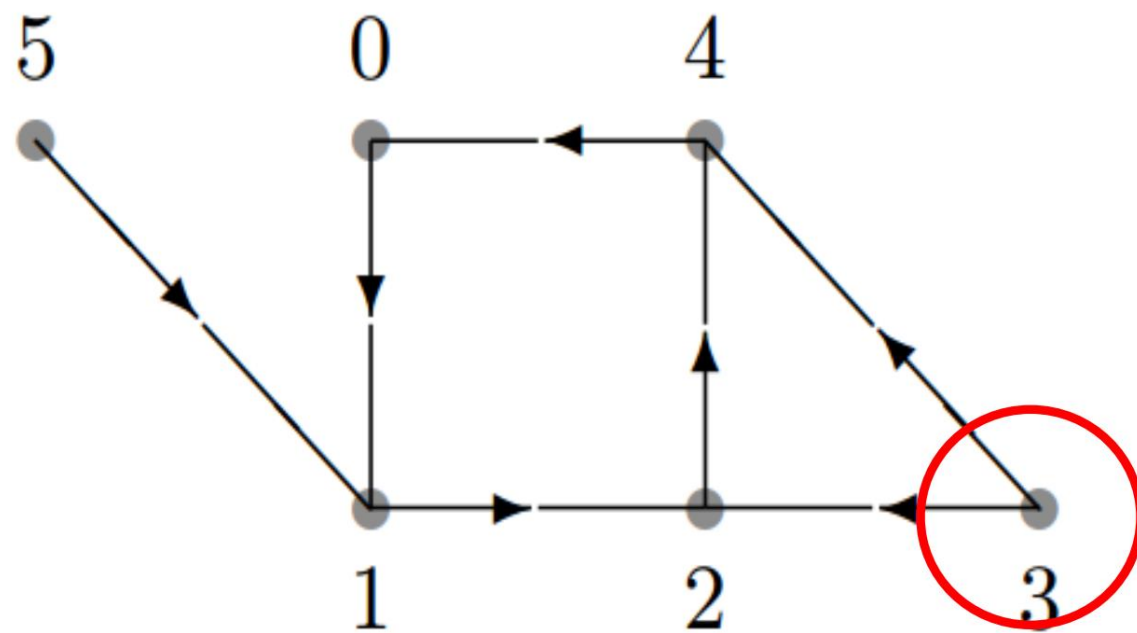




Teoria dos Grafos com Python

@fmasanori

	0	1	2	3	4	5
0	0	1	0	0	0	0
1	0	0	1	0	0	0
2	0	0	0	0	1	0
3	0	0	1	0	1	0
4	1	0	0	0	0	0
5	0	1	0	0	0	0

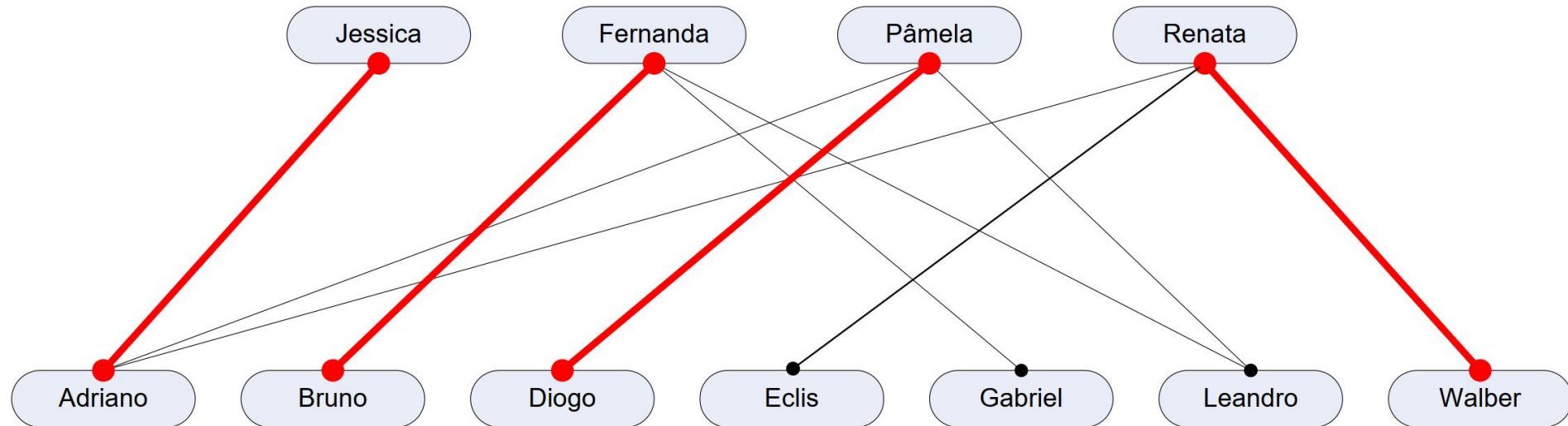


Arthur Merlin Games

- Casar 150 donzelas com 150 cavaleiros
- Colocar os 150 cavaleiros em torno da Távola Redonda
- 10^{262} possibilidades
- 10^{255} anos (vendo uma possibilidade por segundo)
- 10^{22} idade do universo
- 10^{79} prótons no mundo

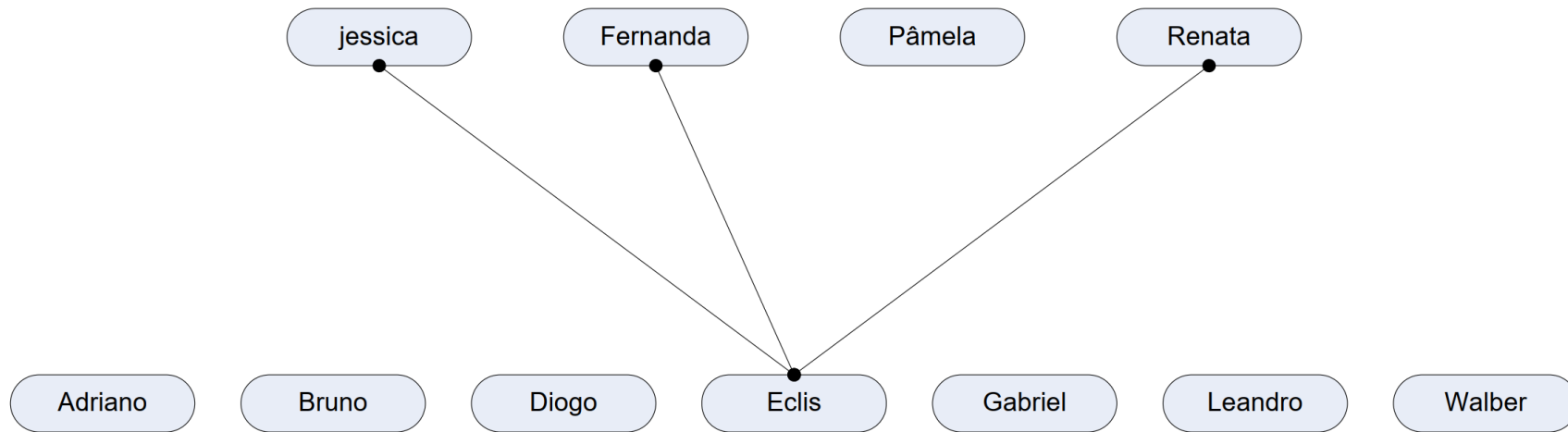


Small sample



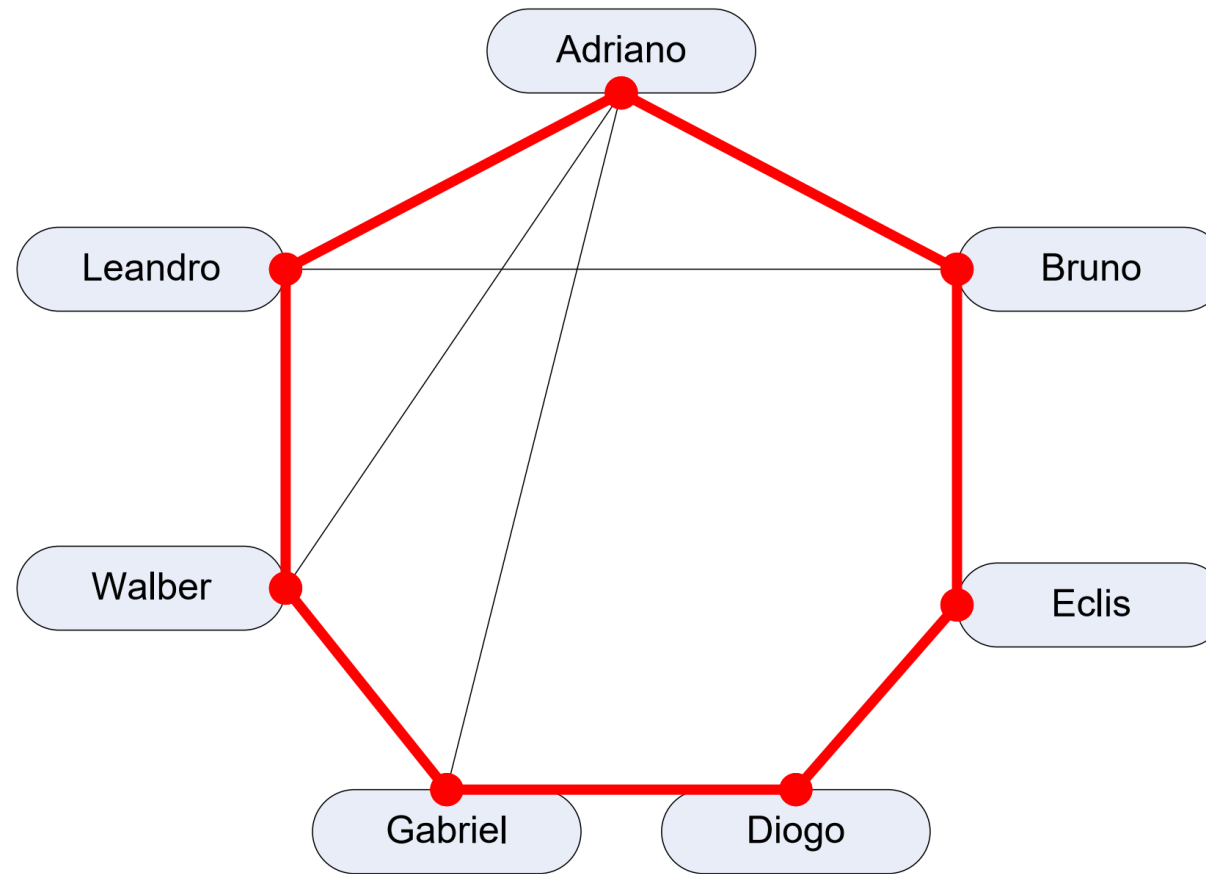
No obstruction to the goal in this sample

König theorem

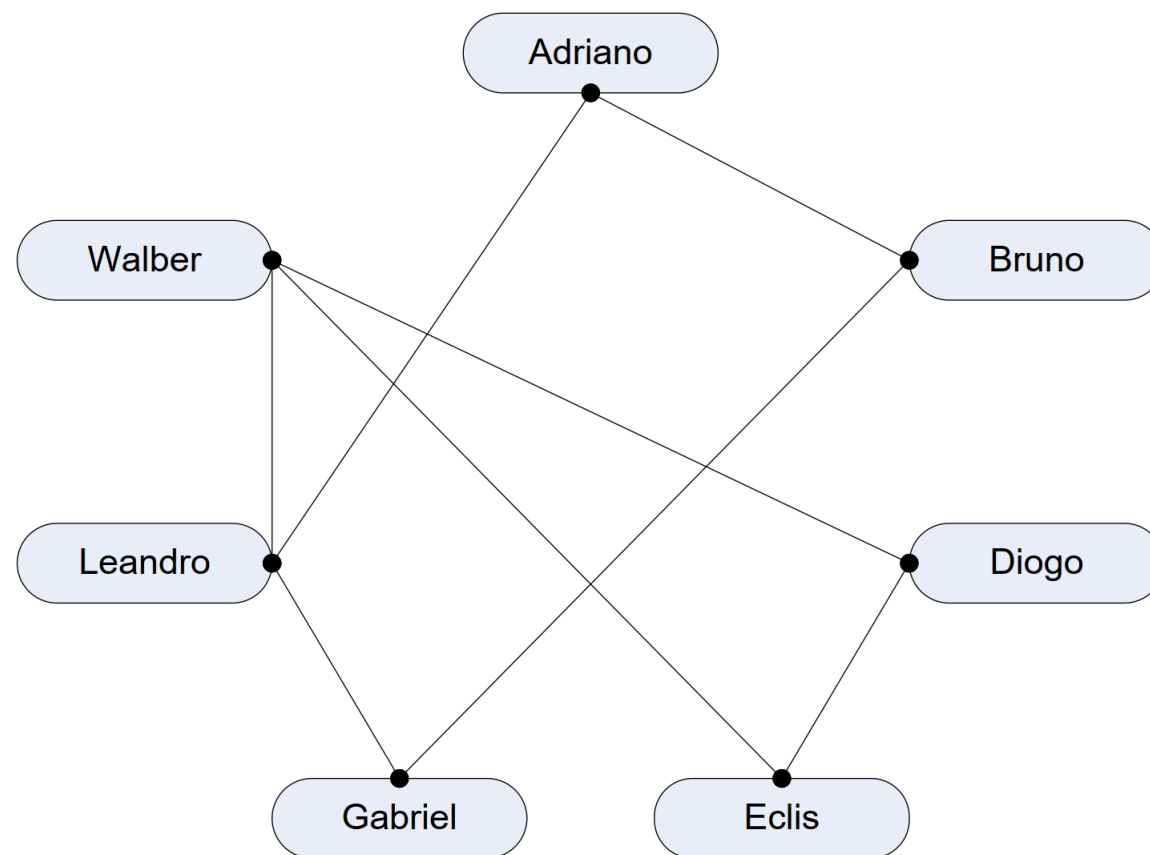


Subconjunto de donzelas com “queridos” menor
Obstruction to the goal == simple certificate

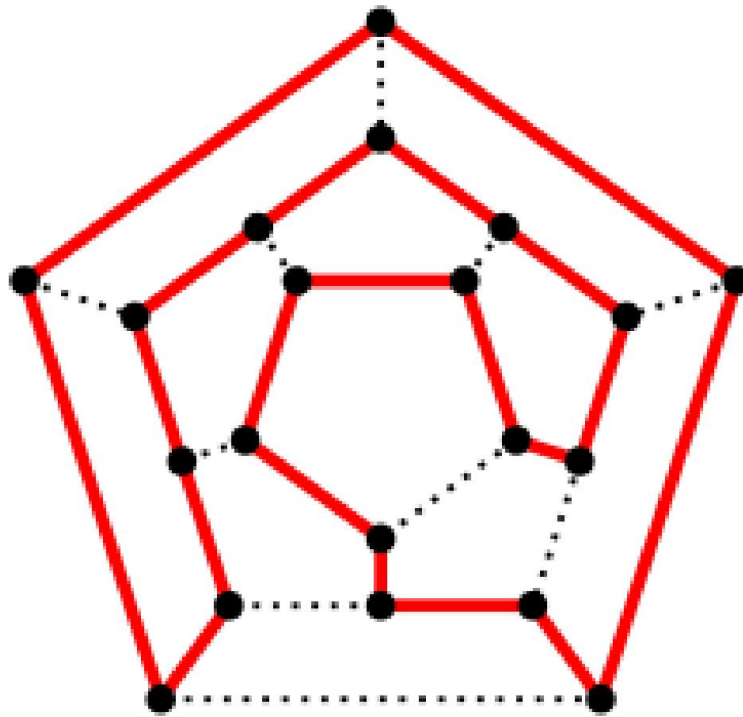
Round Table with no fight



Problematic Round Table

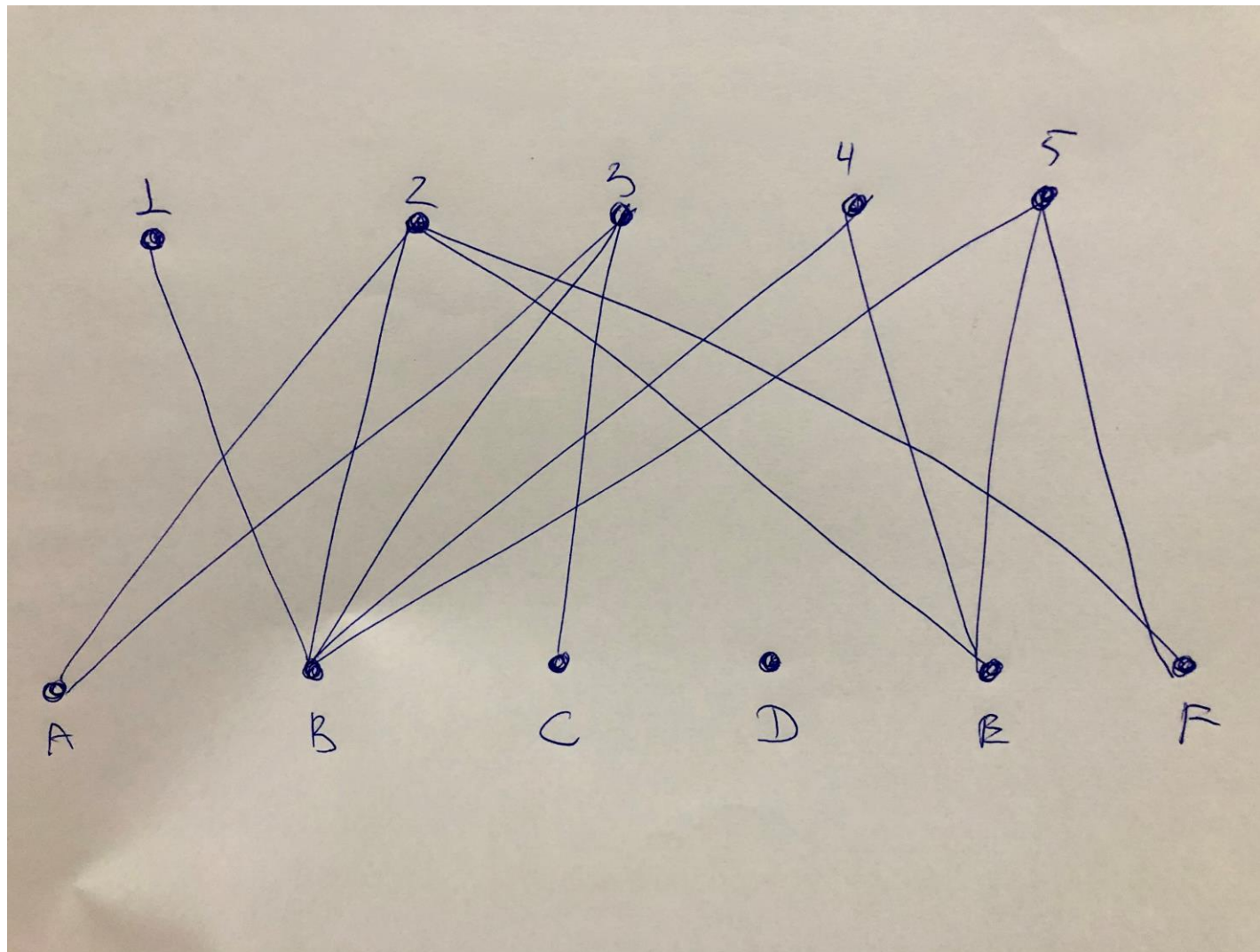


Hamiltonian Circuit

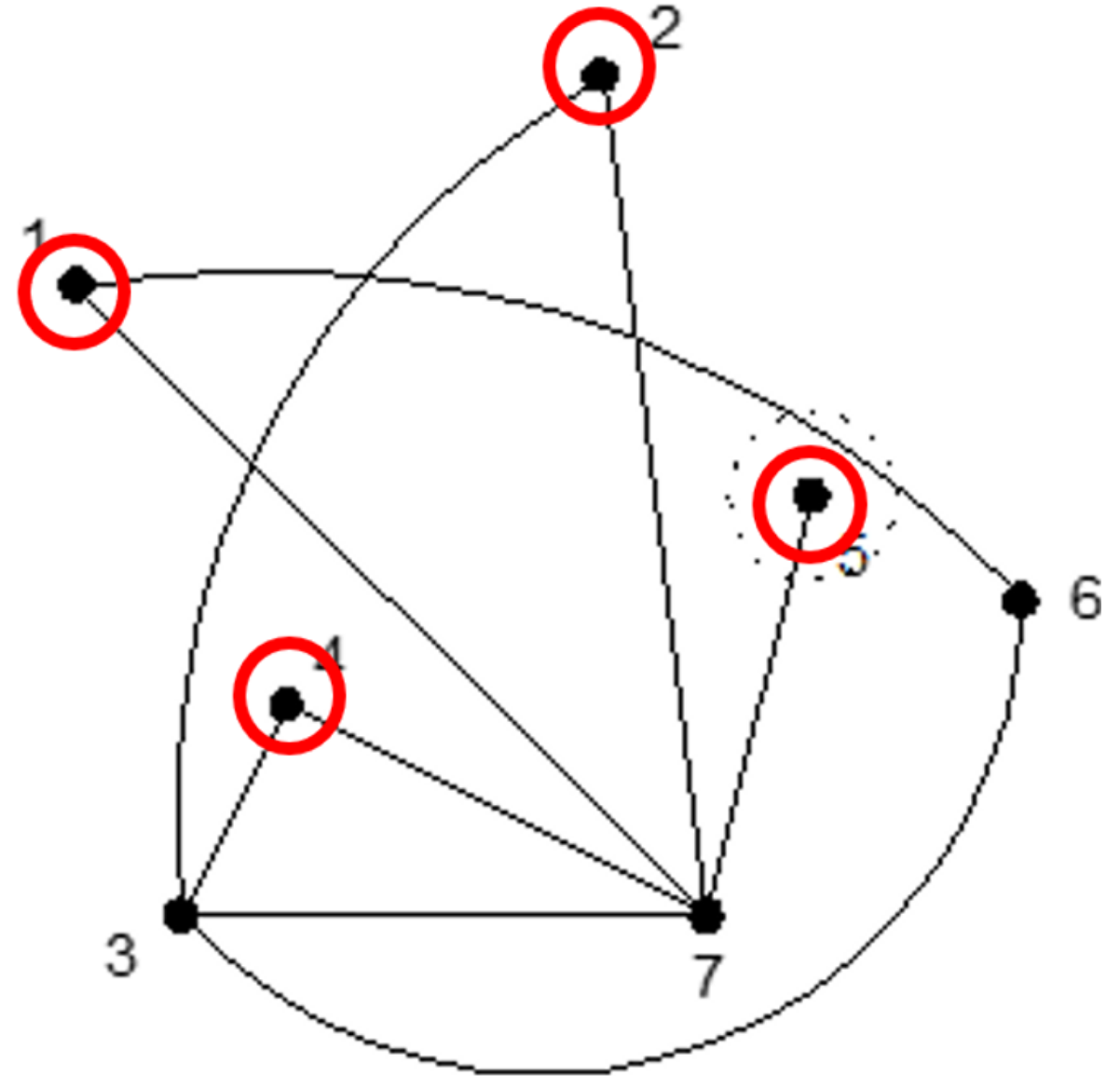


Probably no good characterization

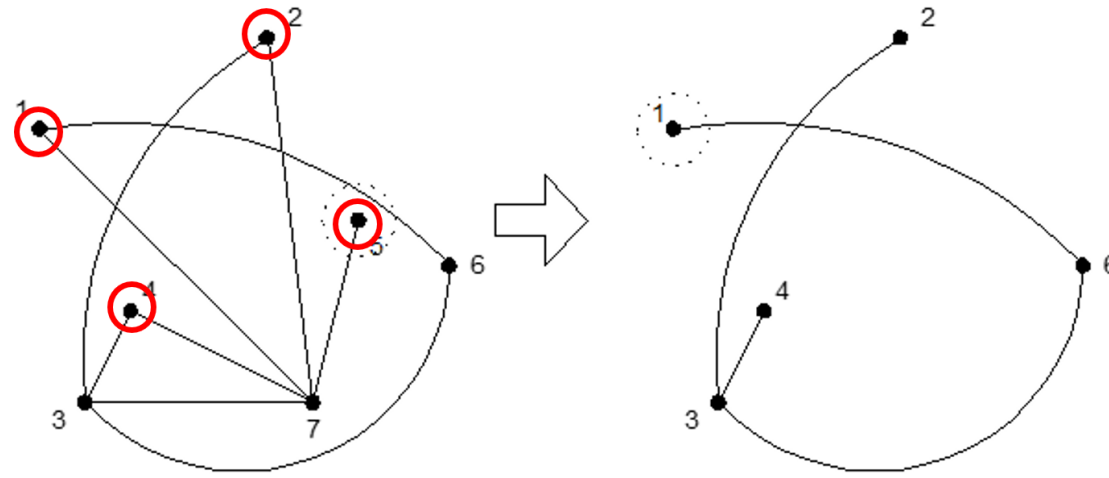
Heurísticas de aproximação



Maximum
Independent
Set

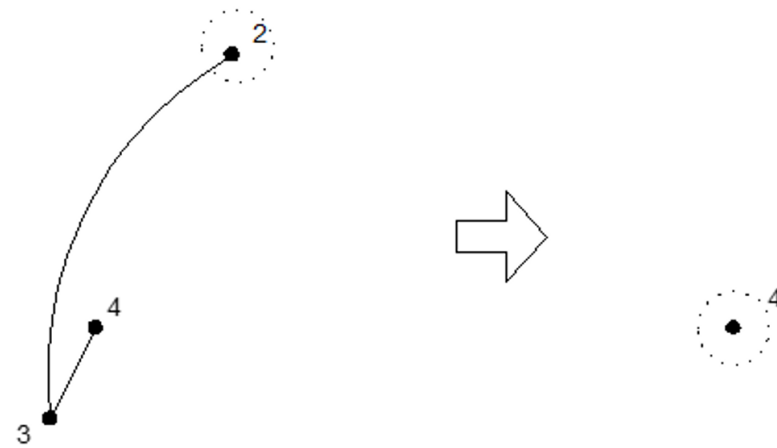


Minimum Degree Greedy Heuristic for MIS



$S=\{5\}$

$S=\{5, 1\}$



$S=\{5, 1, 2\}$

$S=\{5, 1, 2, 4\}$

bit.ly/PythonED
@fmasanori