MAX-CUT Exercise

Seminar Modern Methods in Combinatorial Optimization

May 21, 2015

Let $G = (V, E)$ be a simple graph with nonnegative edge weights w_{ij}. Further assume that $\forall i \in V : \{i, i\} \notin E$.
An instance of the MAX CUT problem is to find a maximal cut in G, i.e. find $S, \bar{S} \subset V$, s.t. $V = S \cup \bar{S}$ and that $\sum_{\substack{i \in S \\ j \in \bar{S}}} w_{ij}$ is maximized.

Exercise 1: Determine the max cut in the following graph:

Exercise 2: Formulate MAX CUT as an Integer Quadratic Program.

Ask Fin or Stefan if you need hints.