Combinatorial Optimization
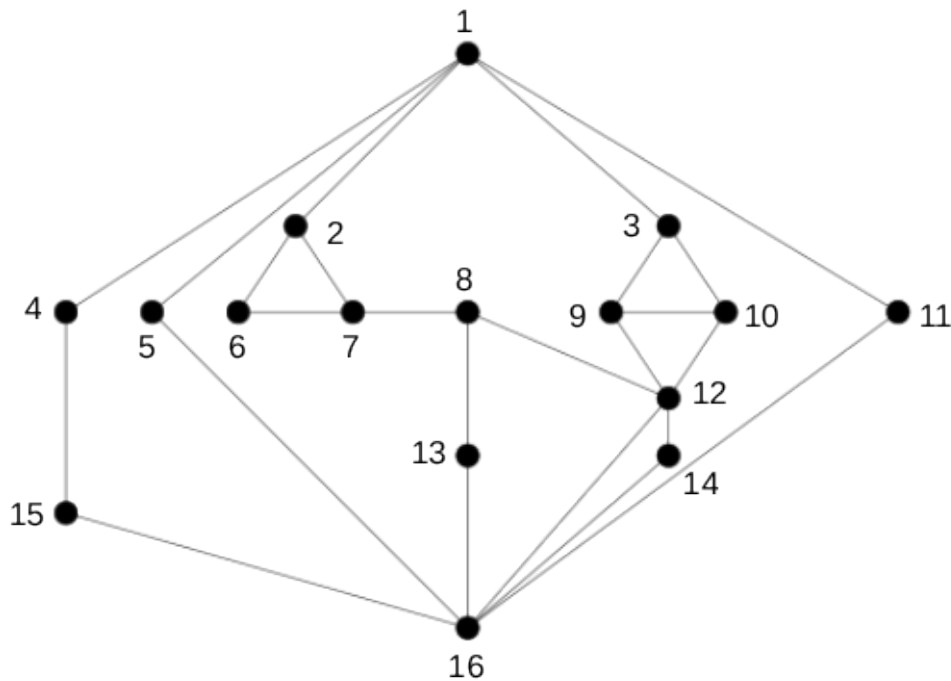## Exercise set 0

(Used in the first exercise class, before the first official set had been handed in by the students.)

Exercise 0.1: Show that a graph G is factor-critical if and only if G is connected and for every vertex $v \in V(G)$ we have $\nu(G - v) = \nu(G)$.

Exercise 0.2: Find a maximum matching in the graph in Figure 1. (*Hint:* Consider the vertex set $X := \{1, 8, 12, 16\}$.)

Figure 1: Graph for exercises 0.2 and 0.3.

Exercise 0.3: Find the Gallai-Edmonds decomposition of the graph in Figure 1.