

**Problem Solving and Search in AI**  
**Tutorial 4 (on 5th December WS 19/20)**

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**Exercise 1.2 (old exam question):**

Given a graph  $G = (V, E)$ , a matching is a set of edges  $M \subseteq E$ , such that every node is the endpoint of exactly one edge. Write an ASP program that computes matchings for arbitrary graphs.

**Exercise 1.3 (Subsetsum problem):**

Given a set (or multiset) of integers, is there a non-empty subset whose sum is zero? For example, given the set  $\{-7, -3, -2, 5, 8\}$ , the answer is yes because the subset  $\{-3, -2, 5\}$  sums to zero. Write an ASP program that computes all subsets with total sum zero.