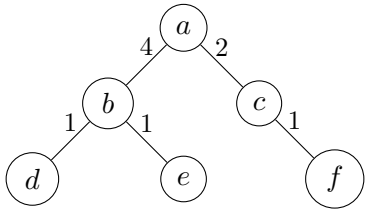
CSE421: Design and Analysis of Algorithms May 17, 2022

Shayan Oveis Gharan Problem Solving Session 5

P1) You are given a tree T where every edge e has weight $w_e \geq 0$. Design a polynomial time algorithm to find the weight of maximum weight matching in T. Remember that a matching M is a set of edges of T such that any vertex of T is incident to *at most* one edge of M.



For example, in the (above) tree, the maximum weight matching has edges $(a, b), (c, f)$ with weight $4 + 1 = 5$.