Week 10 Preparation

Instructions to the students: The preparation problems are not assessed, but we strongly recommend that you try to solve them before your applied class this week. These preparation problems test your basic knowledge of the contents taught in the seminar of the previous week. The problems in the applied class assume that you have this basic knowledge and will build on top of it. You might find it helpful to try these problems before doing the quiz that is due this week.

Problems

Problem 1. Consider the following circulation with demands problem presented in Figure 1. Does it have a feasible solution?
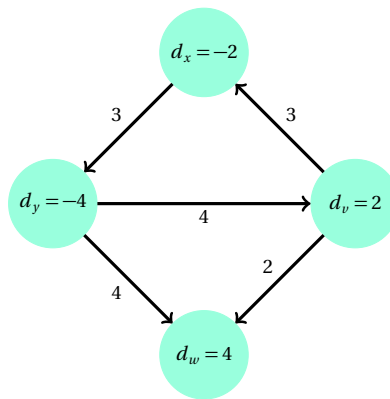

Figure 1: An instance of the circulation with demands problem. The demand is indicated in each vertex, and the capacity in each edge.

Problem 2. Consider the following circulation with demands and lower bounds problem presented in Figure 2. Does it have a feasible solution?
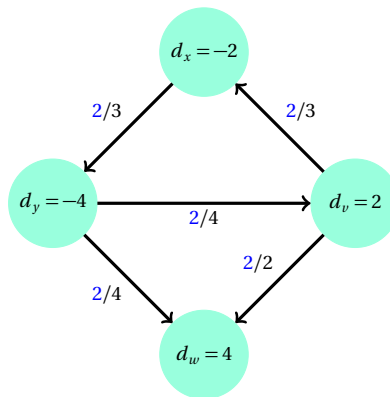

Figure 2: An instance of the circulation with demands and lower bounds problem. The demand is indicated in each vertex, and in each edge its capacity is in black and its lower bound in blue.