

Exercises

Algorithm theory

Winter term 2008/09

Exercise sheet 7

TASK 1 (1 point):

Consider the following problem. Some people have been bad this year (according to the evaluation sheets). Each of them have to be punished by either Knecht Ruprecht or Krampus. However, they have different opinions about the length and scale of punishments. Now each person can choose who is going to punish him and when. The task is to find an schedule which minimizes the average waiting time for all.

1. Find an optimal schedule for the following example.

Student	Punishing time Ruprecht	Punishing time Krampus
Alexander	5	2
Bente	4	17
Christian	19	7
Johannes	3	1
Stefan	9	5

2. Find an greedy algorithm which calculates a schedule.
3. Does your algorithm always compute the optimal solution and why?