(CS1.301) Advanced Algorithm Design (Monsoon 2022)

Problem Set 3

Due: 09.11.2022

Instructions:

- Discussions amongst the students are not discouraged, but all writeups must be done individually and must include names of all collaborators.
- Referring sources other than the lecture notes is discouraged as solutions to some of the problems can be found easily via a web search. But if you do use an outside source (eg., text books, other lecture notes, any material available online), do mention the same in your writeup. This will not affect your grades. However dishonesty of any sort when caught shall be heavily penalized.
- Be clear in your arguments. Vague arguments shall not be given full credit.
- Total marks will be normalized.

Question 1 [2+2+4 marks]

Problem 1 of Chapter 6, Kleinberg-Tardos.

Question 2 [2+4 marks]

Problem 3 of Chapter 6, Kleinberg-Tardos.

Question 3 [7 marks]

Problem 11 of Chapter 6, Kleinberg-Tardos.

Question 4 [7 marks]

Problem 12 of Chapter 6, Kleinberg-Tardos.

Question 5 [4+5 marks]

Problem 23 of Chapter 6, Kleinberg-Tardos.