

## Advanced algorithms - Assignment 2

(Phd students have to do all the questions, irrespective of there is a choice or not)

1. [2 marks] Prove (with no missing steps) that  $H(n) = \theta(\log n)$ .
2. [3 marks] Set Cover: Show that, if we use the greedy strategy of “selecting the set with the least weight”, we will not get an “H(d) OPT” approximate solution.
2. [5 marks] Greedy-Approximation algorithm: Answer one of the following
  - a. Question 1 in Chapter 12 of Kleinberg and Tardos
  - b. Question 6 in Chapter 12 of Kleinberg and Tardos