COS 340 / Fall 2020 / Problem Set 1 Grade Report

Name: Will Svoboda

Precept/Preceptor: P03/Uma Girish

Problems	Max Points	Points
Problem 1	20	10
Problem 2	20	17
Problem 3	20	18
Problem 4	20	17
Problem 5	20	20
Problem 6	20	19
TOTAL	**120**	**101**

Deductions & Comments

ps4_exercise1.pdf: You have to prove that there is an injection, rather than merely citing it. In particular, you need to make use of the fact that the intervals are disjoint, otherwise this doesn't apply. (-10)

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ps4_exercise2.pdf: Good! However, I don't think your justification of the second step is complete; it makes little mention of the algorithm you use, or the fact that this is an interval graph. (-3)

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ps4_exercise3.pdf, part B: You can't just add a node; you need to shrink down first. (-2) Ask your preceptor if you're confused about induction on graphs.

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ps4_exercise4.pdf, part C: You don't explain why expectation being 0 implies the probability is 0, using Markov's inequality or union bounds or similar. (-3)

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ps4_exercise5.pdf: Very good.

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ps4_exercise6.pdf: Your argument that Hall's Condition is met is wrong; imagine all edges from S go to the same n items in L. (-1) From precept, there is an argument that a regular bipartite graph satisfies Hall's Condition.