COS 340 / Fall 2020 / Problem Set 3 Grade Report

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Precept/Preceptor: P03/Uma Girish

Problems	Max Points	Points
Problem 1	20	17
Problem 2	20	13
Problem 3	20	15
Problem 4	20	20
Problem 5	20	17
Problem 6	20	8
TOTAL	**120**	**90**

Deductions & Comments

ps3_exercise1.pdf, part (b): Your sum isn't correct—you should try looking at the solutions and making sure you understand them. I think the confusion is that you're not using linearity of expectation correctly. (-3)

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ps3_exercise2.pdf, overall: You only verify that $P(X = 1, Y = 1) = P(X = 1)\ P(Y = 1)$, and not the other cases; e.g. $P(X = 0, Y = 0) = P(X = 0)\ P(Y = 0)$. (-7)

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ps3_exercise3.pdf, overall: Be careful! Proving that the two subgraphs are connected is not the same thing as establishing that the whole graph is connected. (-5)

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ps3_exercise4.pdf, overall: Very good.

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ps3_exercise5.pdf, overall: Why is it necessarily the case that removing two vertices from G necessarily produces a graph which has no triangles? (-2) You also shouldn't assume G' has at most (k+1)^2 edges, and instead should assume that G' has no triangles. (-1)

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ps3_exercise6.pdf: You should probably add a bit more justification for the claim that disconnecting an edge which isn't on a cycle leads to a disconnected graph. (-3)

ps3_exercise6.pdf: Doesn't attempt reverse direction (ie. that if a graph is connected and every edge is traverse by a cycle, then it is 2-edge connected). (-9)