

CSC 464/564 Homework #4

Assigned: Wednesday, September 12, 2018

Covers: Decompositions of graphs

Worth 25 points

Instructor: Jeff Ward

Due: 11:59pm, Wednesday, September 26

Solve the following exercises from the textbook:

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3.1 (4 points)

3.2 part (b) only (6 points)

3.3 (6 points)

3.4 part (i) only (9 points) Your trace should involve the following steps:

- 1) Draw  $G$  and  $G^R$ .
- 2) Show the pre- and post-numbers that you obtain in your DFS on  $G^R$ .
- 3) Show how you order the vertices of  $G$  based on your DFS on  $G^R$ .
- 4) Show the pre- and post-numbers that you obtain in your dfs on  $G$ .
- 5) Circle and label the strongly connected components.

Then answer questions a-d.