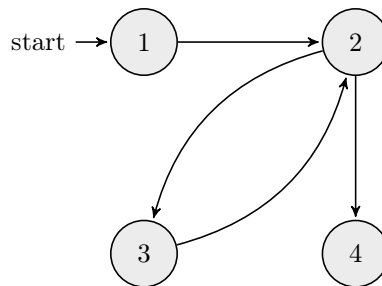


Homework 6

Note: You may collaborate on the assignment. If you do collaborate on the assignment, list your collaborators. All duplicate assignments without collaborators listed will be flagged for plagiarism. Additionally, presenting others work – including a Chegg expert answer – as your own work *is* a violation of the academic dishonesty policy.

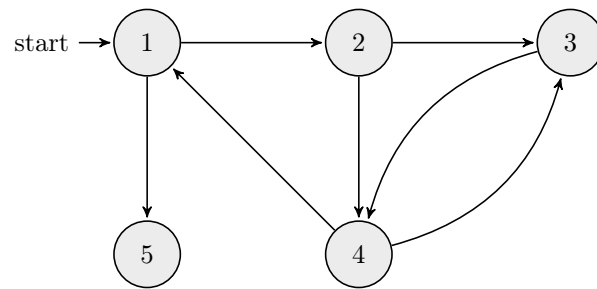
This homework assignment is designed to prepare you for the in class quiz. For the following graph:

Problem 1: Consider the graph:



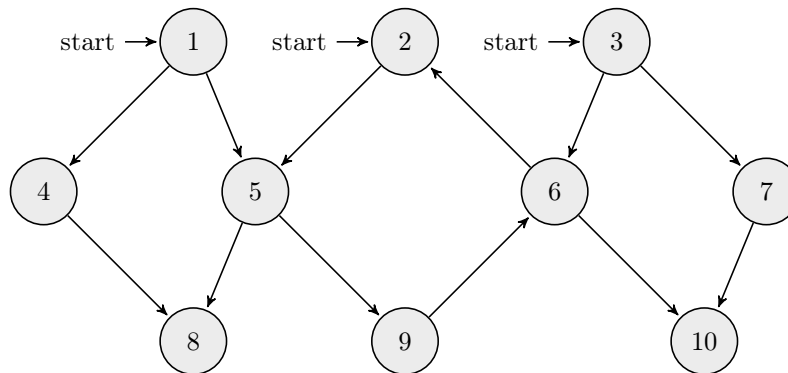
- If possible, list test paths that achieve Node Coverage, but not Edge Coverage. If not possible, explain why not.
- If possible, list test paths that achieve Edge Coverage, but not Edge Pair Coverage. If not possible, explain why not.
- List test paths that achieve Edge Pair Coverage.

Problem 2: Consider the graph where $N_0 = 1$ and $N_f = 5$:



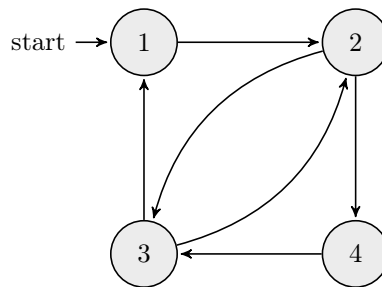
- (a) List the test requirements for Node Coverage, Edge Coverage, and Prime Path Coverage on the graph.
- (b) List test paths that achieve Node Coverage but not Edge Coverage on the graph.
- (c) List test paths that achieve Edge Coverage but not Prime Path Coverage on the graph.

Problem 3: Consider the graph



- (a) List the test requirements for Node Coverage, Edge Coverage, and Prime Path Coverage on the graph.
- (b) List test paths that achieve Node Coverage but not Edge Coverage on the graph.
- (c) List test paths that achieve Edge Coverage but not Prime Path Coverage on the graph.

Problem 4: Consider the graph where $N_0 = 1$ and $N_f = 4$:



And the following paths:

p1 = [1, 2, 3, 1]

p2 = [1, 2, 3, 2, 4]

p3 = [1, 2, 4, 3, 2, 4]

p4 = [3, 1, 2, 4]

p5 = [1, 2, 3, 4]

- Which of the listed paths are test paths? For any path that is not a test path, explain why not.
- List the test requirements for Edge-Pair Coverage (only the length two subpaths).
- Does the set of test paths from part (a) above satisfy Edge-Pair Coverage? If not, state what is missing.
- Consider the prime path [2, 3, 2] and path p2. Does p2 tour the prime path directly? With a sidetrip?