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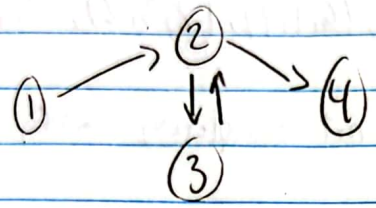
Lab 5

Exercise 1

$N = \{1,2,3,4\}$

1)



Step 2, Node coverage: $TR = \{1,2,3,4\}$ Test path = [1,2,4] [1,2,3]

↳ Here, every node is covered at least once through the two test paths, but not every edge (3,2)

Step 3, Edge coverage: $TR = \{(1,2),(2,3),(3,2),(2,4)\}$

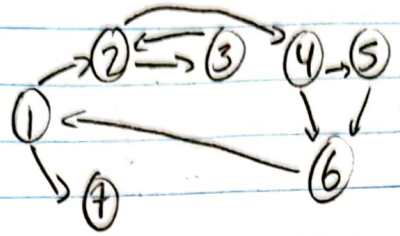
Test Path = [1,2,4] [1,2,3] [1,2,3,2]

↳ Here, every edge is covered but not every edge pair because (1,2,3,2,4) is not he

step 4: $TR = \{(1,2,3),(1,2,4),(2,3,2),(3,2,4)\}$

Test path = [1,2,3] [1,2,4] [1,2,3,2,4]

Exercise 2:



step 2: {(1,2,3), (1,2,4), (3,2,4), (2,4,5), (4,5,6), (4,6,5), (4,6,1), (6,1,2), (5,6,1), (6,1,7), (2,3,2), (3,2,3)}

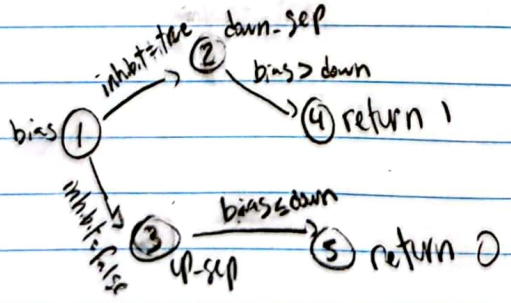
Step 3: The test paths {p1, p2, p3} do not completely satisfy Edge-pair coverage, we are missing: [1,2,4,6,1,7]

Step4: From (4,6) in the test path we have a detour since we're avoiding node ⑤, also, when we go from (2,4) it is also a detour from ③ since we are looping twice. There is also a side trip from (2,3) and (3,2)

Step 5: Node Coverage TR = {1,2,3,4,5,6,7}
Edge coverage TR = {(1,2),(2,3),(3,2),(2,4),(4,5),(4,6),(5,6),(6,1),(1,7)}
Prime Path coverage TR = [1,2,4,5,6,1,7], [2,3,2], [4,6]

Step 6: p1 is missing [2,3,2] p2 is missing [4,5,6] or [4,5]
and p3 is missing [4,6], so none of them achieve full edge coverage on their own

Data Flow Testing



defs for bias:
bias = down_sep
bias = up_sep

All uses for bias
bias > down_sep in the if statement

All d-paths
bias = down_sep to bias > down_sep when inhibit=true
bias = up_sep to bias > down_sep when inhibit=true