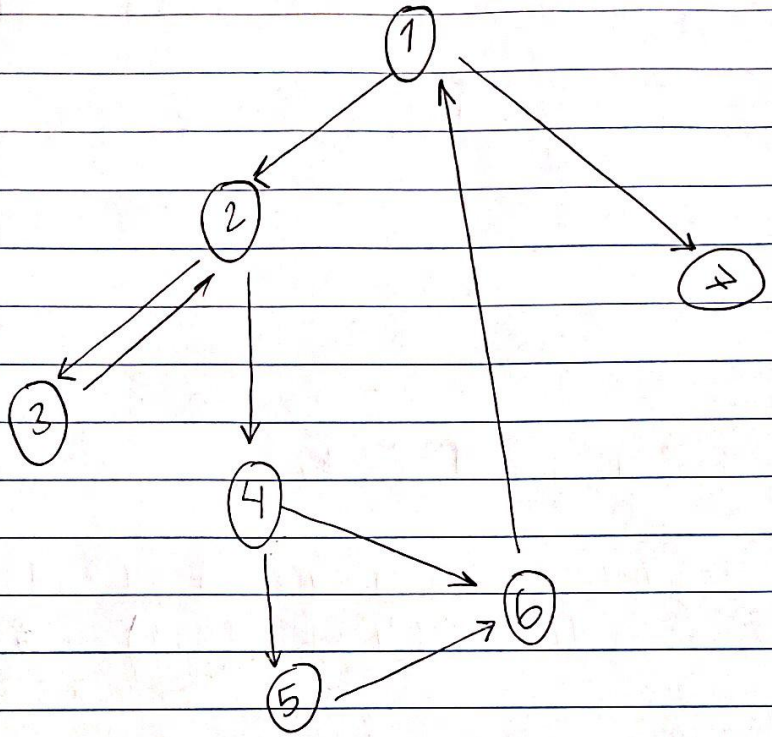
HW 4 Nabin Shrestha
Section 7.2.2

(5)

(a)



(b)

Ans→ { [1,2,3], [1,2,4], [2,4,5], [2,3,2]
[2,4,6], [3,2,3], [3,2,4], [4,5,6]
[4,6,1], [5,6,1], [6,1,2], [6,1,7] }

(c)

Ans→ No, none of the given set of test paths satisfy edge-pair coverage.

[3,2,3] & [6,1,2] aren't covered by the set of test paths given

(d)

Ans→ No, the test path doesnot tour the simple path directly.
Yes, with a sidetrip. It is [2, 4, 6, 1, 2]

(e)

Ans:

Node Coverage : {1, 2, 3, 4, 5, 6, 7}

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

Prime Path Coverage : {[1,2,4,5,6,1], [1,2,4,6,1], [2,4,6,1,2], [2,4,5,6,1,2], [3,2,4,6,1,7], [3,2,4,5,6,1,7], [4,6,1,2,4], [4,5,6,1,2,4] [4,6,1,2,3], [4,5,6,1,2,3], [5,6,1,2,4,5] [6,1,2,4,6], [6,1,2,4,5,6], [3,2,3], [2,3,2]}

(f)

Ans: P3 covers Node but not Edge i.e, (4, 6)

(g)

Ans: {P1, P2} or {P2, P3} covers Edge but not Prime Path.

(7)

Ans:

(a) P1 : not a test path because it doesnot terminate at final node

P2 : test path

P3 : test path

P4 : not a test path because it doesnot start with an initial node

P5 : not a test path because an edge (3,2) doesnot exist in the graph

(b)

Ans: The eight test requirements for Edge-Pair coverage are

{ [1, 2, 1], [1, 2, 3], [1, 3, 1]
[2, 1, 3], [2, 1, 2], [2, 3, 1]
[3, 1, 2], [3, 1, 3] }

(c)

Ans: No, the set of test paths doesnot satisfy the edge pair coverage because P2 & P3 doesnot cover [2, 1, 2] and [3, 1, 3]

(d)

Ans: P3 doesn't turn the prime path directly but with sidetrip [1, 2, 1] it tours the prime path