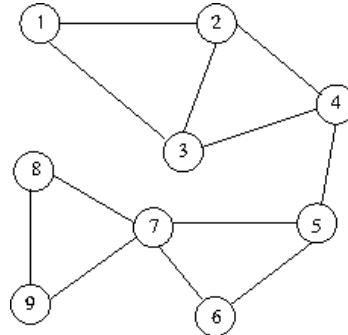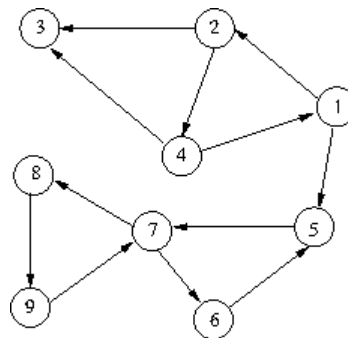**Exercise 1** Find the articulation points in the following graph. Report the DFS tree by starting from node 5 and choosing the nodes for traversal in increasing order of the labels.
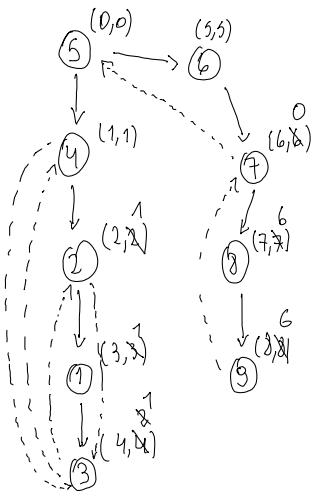

Figure 1 – Graph 1

Exercise 2 Find the strongly connected components in the following directed graph. Report the DFS tree by starting from node 5 and choosing the nodes for traversal in increasing order of the labels.

Figure 2 – Graph 2

Exercise 3 Solve the problem *Telephone* in EA2025_PL in Mooshak.

1

(0,0) 5 → 6 (5,5)

AP: 4, 7, 5, {5,4}

4 (1,1)

7 (6,8) 0

2 (2,2) 1

8 (7,7) 6

1 (3,3) 7

9 (8,8) 6

3 (4,4) 8 7

2

CC = {5,7,6,8,9}, {3}, {1,2,4}

(0,0) 5

(1,7) 0

7

(2,8) 0

6

8 (3,3) 0

9 (4,4) 0

(5,5) 1

(6,8) 5

2

(7,7) 3

(8,8) 4 5

7 2 3 4