

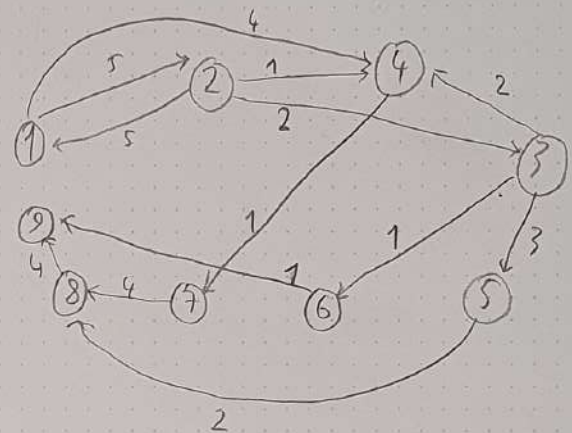
Özkan Gizem  
123 27 230  
~~123~~

1) Student ID: k123 27 230,  $d_2=2$ ,  $d_3=3$ ,  $d_4=2$ ,  
 $d_6=2$ ,  $d_7=3$ ,  $d_8=1$

Adjacency matrix:

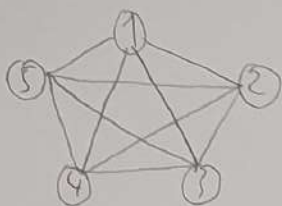
from to	1	2	3	4	5	6	7	8	9
1		5		4					
2	5		2	1					
3				2	3	1			
4							1		
5								2	
6									1
7								4	
8									4
9									

Graph:

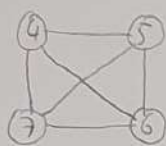
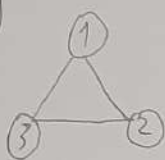


- Yes it is weighted
- Yes it is directed
- 4 has highest in-Degree which is 5
- 2,3 have highest out-Degree which is 3
- Largest edge weight is 5.
- The graph is cyclic.
- There is just one loop
- The graph is weakly connected.
- No it is not.

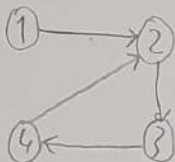
2)



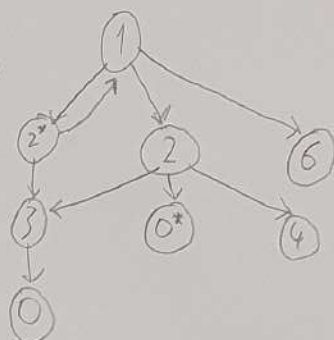
3)



4)



5)  $d_6 = 2^*$ ,  $d_7 = 3$ ,  $d_8 = 0^*$



DFS:

1 - [2, 2\*, 6] - 2 - [1]

2 - [0\*, 3, 4] - 0\* - [1, 2]

0\* - [] - 2(vp) - [1, 2, 0\*]

2 - [0\*, 3, 4] - 3 - [1, 2, 0\*]

3 - [0] - 0 - [1, 2, 0\*, 3]

0 - [] - 3(vp) - [1, 2, 0\*, 3, 0]

3 - [0] - 2(vp) - [1, 2, 0\*, 3, 0]

2 - [0\*, 3, 4] - 4 - [1, 2, 0\*, 3, 0]

4 - [] - 2(vp) - [1, 2, 0\*, 3, 0, 4]

2 - [0\*, 3, 4] - 1(vp) - [1, 2, 0\*, 3, 0, 4]

1 - [2, 2\*, 6] - 2\* - [1, 2, 0\*, 3, 0, 4]

2\* - [1, 3] - 1(vp) - [1, 2, 0\*, 3, 0, 4, 2\*]

1 - [2, 2\*, 6] - 6 - [1, 2, 0\*, 3, 0, 4, 2\*]

6 - [] - 1(vp) - [1, 2, 0\*, 3, 0, 4, 2\*, 6]

1 - [2, 2\*, 6] - end - [1, 2, 0\*, 3, 0, 4, 2\*, 6]