ADJACENCY MATRIX AND LIST OF DIRECTED AND UNDIRECTED GRAPH

1.)
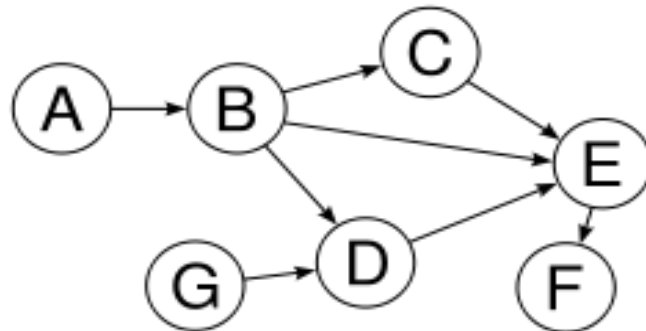
1.a)

|	A	B	C	D	E	F	G
A	0	1	0	0	0	0	0
B	0	0	1	1	1	0	0
C	0	0	0	0	1	0	0
D	0	0	0	0	1	0	0
E	0	0	0	0	0	1	0
F	0	0	0	0	0	0	0
G	0	0	0	1	0	0	0

1.b)

A	→	B	/

B	→	C	→	D	→	E	/

C	→	E	/

D	→	E	/

E	→	F	/

F	→	/	/

G	→	D	/

2.)
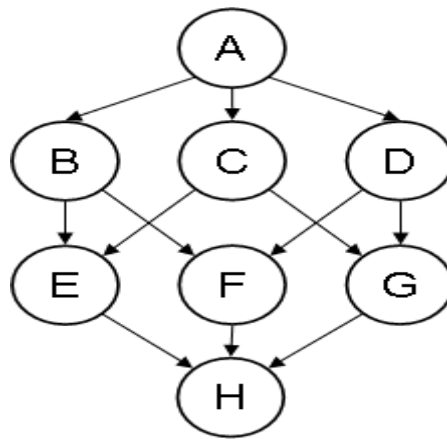
2.a)

	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
A	0	1	1	1	0	0	0	0
B	0	0	0	0	1	1	0	0
C	0	0	0	0	1	0	1	0
D	0	0	0	0	0	1	1	0
E	0	0	0	0	0	0	0	1
F	0	0	0	0	0	0	0	1
G	0	0	0	0	0	0	0	1
H	0	0	0	0	0	0	0	0

2.b)

A	→	B	→	C	→	D	/

B	→	F	→	E	/

C	→	E	→	G	/

D	→	F	→	G	/

E	→	H	/

F	→	H	/

G	→	H	/

3.)
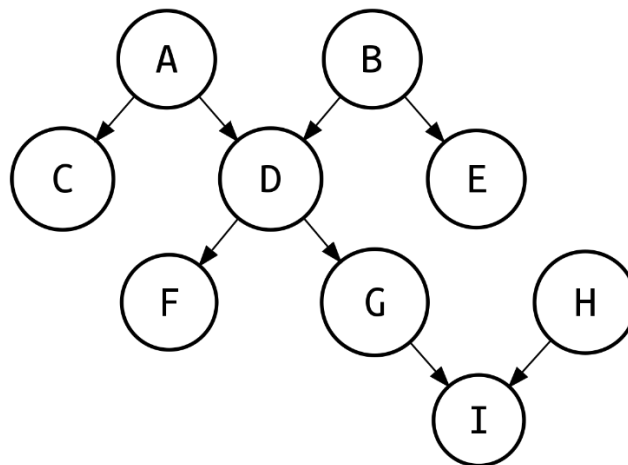
3.a)

	A	B	C	D	E	F	G	H	I
A	0	0	1	1	0	0	0	0	0
B	0	0	0	1	1	0	0	0	0
C	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	1	1	0	0
E	0	0	0	0	0	0	0	0	0
F	0	0	0	0	0	0	0	0	0
G	0	0	0	0	0	0	0	0	1
H	0	0	0	0	0	0	0	0	1
I	0	0	0	0	0	0	0	0	0

3.b)

A	→	C	→	D	/

B	→	D	→	E	/

D	→	F	→	G	/

G	→	I	/

H	→	I	/

4.)

3 1 4 6 7

2 5
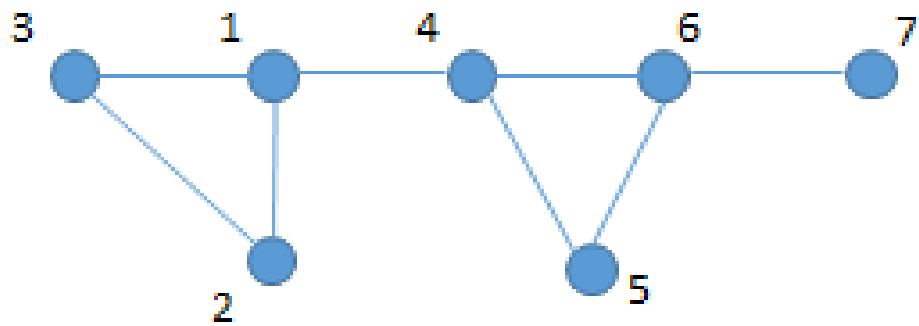
4.a)

	1	2	3	4	5	6	7
1	0	1	1	1	0	0	0
2	1	0	1	0	0	0	0
3	1	1	0	0	0	0	0
4	1	0	0	0	1	1	0
5	0	0	0	1	0	1	0
6	0	0	0	1	1	0	1
7	0	0	0	0	0	1	0

4.b)

1	→	2	→	3	→	4	/

2	→	3	→	1	/

3	→	1	→	2	/

4	→	1	→	5	→	6	/

5	→	4	→	6	/

6	→	5	→	7	→	4	/

7	→	6	/

5.)

5.a)

	1	2	3	4	5	6	7	8
1	0	1	0	0	1	0	0	0
2	1	0	1	0	0	0	0	0
3	0	0	0	1	0	1	0	0
4	0	0	0	0	1	0	1	0
5	0	0	0	0	0	1	0	1
6	0	1	0	0	0	0	1	0
7	0	0	1	0	0	0	0	1
8	1	0	0	1	0	0	0	0

5.b)

1	→	2	→	5	/

2	→	3	→	1	/

3	→	4	→	6	/

4	→	1	→	7	/

5	→	6	→	8	/

6	→	2	→	7	/

7	→	3	→	8	/

8	→	1	→	4	/

6.)
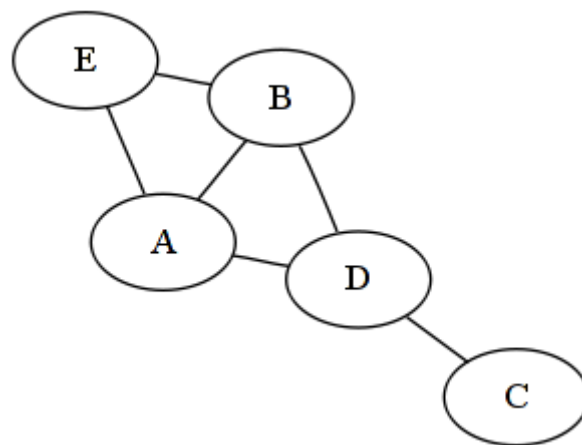
6.a)

	A	B	C	D	E
A	0	1	0	1	1
B	1	0	0	1	1
C	0	0	0	1	0
D	1	1	1	0	0
E	1	1	0	0	0

6.b)

A	→	B	→	D	→	E	/

B	→	A	→	D	→	E	/

C	→	D	/

D	→	A	→	B	→	C	/

E	→	A	→	B	/

7.)
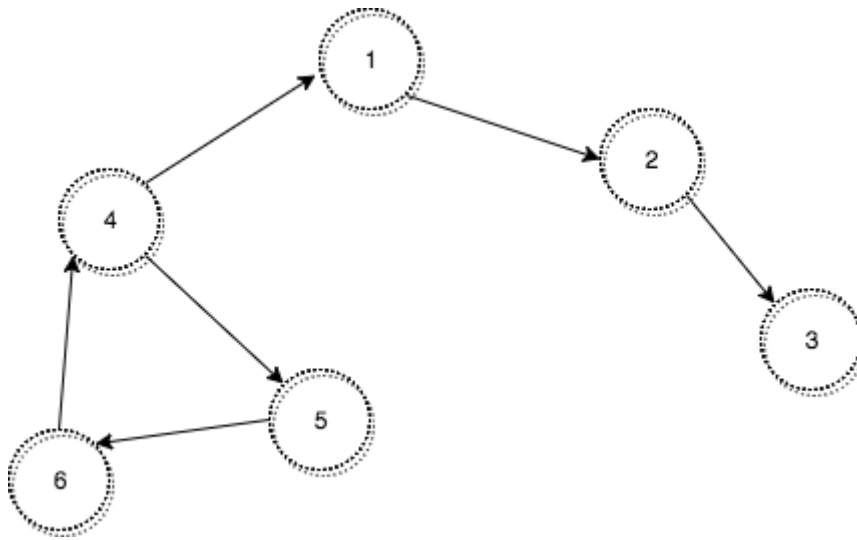
7.a)

	1	2	3	4	5	6
1	0	1	0	0	0	0
2	0	0	1	0	0	0
3	0	0	0	0	0	0
4	1	0	0	0	1	0
5	0	0	0	0	0	1
6	0	0	0	1	0	0

7.b)

1	→	2	/

2	→	3	/

3	→	/	/

4	→	1	→	5	/

5	→	6	/

6	→	4	/

8.)
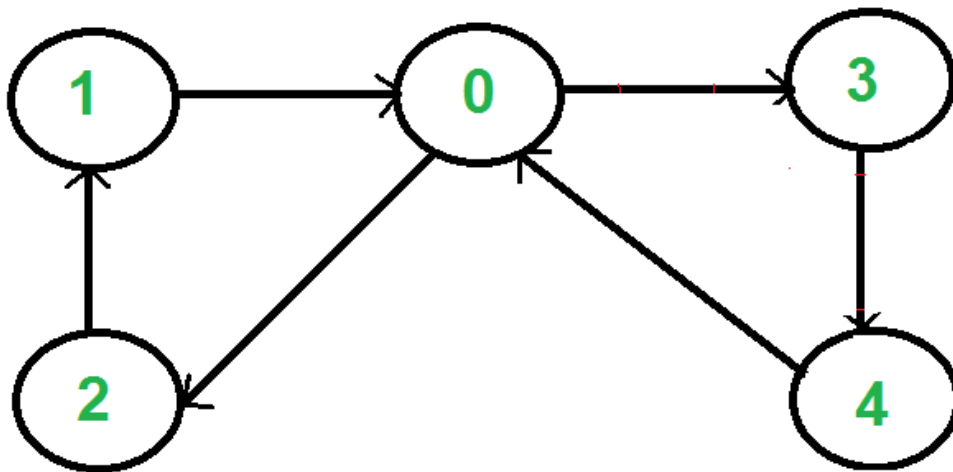
8.a)

	0	1	2	3	4
0	0	0	1	1	0
1	0	0	0	0	0
2	0	1	0	0	0
3	0	0	0	0	1
4	1	0	0	0	0

8.b)

0	→	2	→	3	/

1	→	/	/

2	→	1	/

3	→	4	/

4	→	1	/

9)
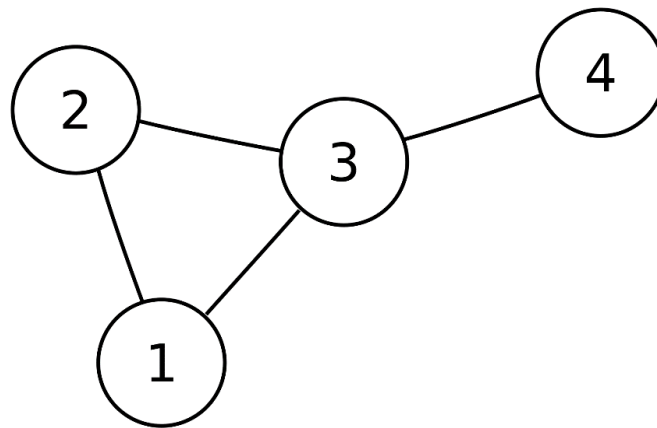
	1	2	3	4
1	0	1	1	0
2	1	0	1	0
3	1	1	0	1
4	0	0	1	0

10.)
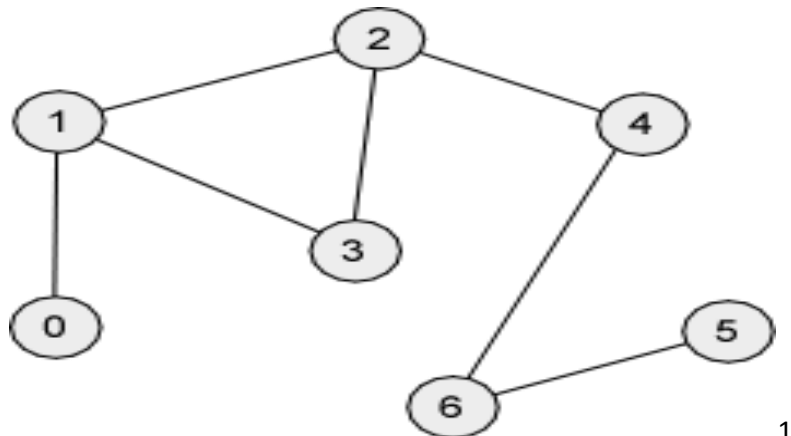
1

	0	1	2	3	4	5	6
0	0	1	0	0	0	0	0
1	1	0	1	1	0	0	0
2	0	1	0	1	1	0	0
3	0	1	1	0	0	0	0
4	0	0	1	0	0	0	1
5	0	0	0	0	0	0	1
6	0	0	0	0	1	1	0

11.)
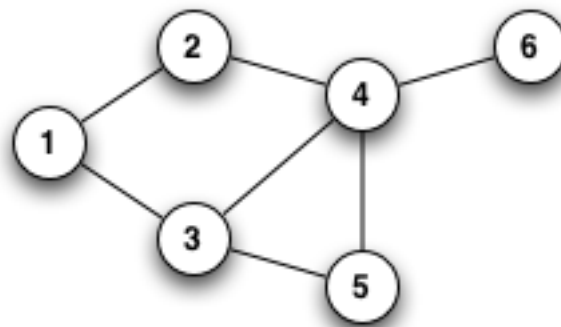
	1	2	3	4	5	6
1	0	1	1	0	0	0
2	1	0	0	1	0	0
3	1	0	0	1	1	0
4	0	1	1	0	1	1
5	0	0	1	1	0	0
6	0	0	0	1	0	0

12.)
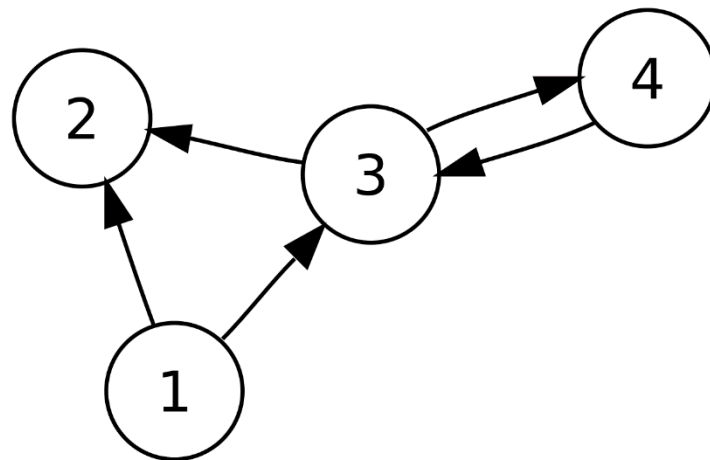
	1	2	3	4
1	0	1	1	0
2	0	0	0	0
3	0	1	0	1
4	0	0	1	0

13.)
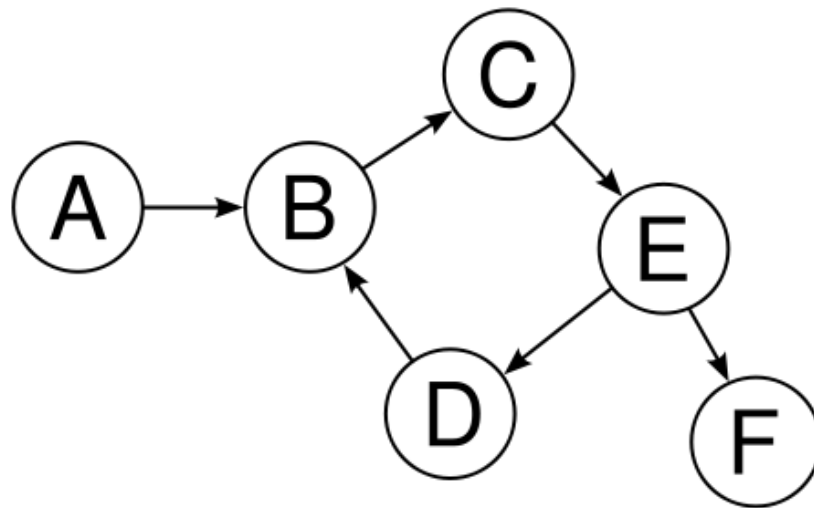
	A	B	C	D	E	F
A	0	1	0	0	0	0
B	0	0	1	0	0	0
C	0	0	0	0	1	0
D	0	1	0	0	0	0
E	0	0	0	1	0	1
F	0	0	0	0	0	0