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Program: BSCS
Course Title: DSA(Lab)
Semester: 3
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Lab Task 1:

Adjacency Matrix of Graph:

	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

Adjacency List:

A → B →||

B → C →||

C → E →||

D → B →||

E → D → F →||

F →|||

←———→

Adjacency Matrix of Directed graph (digraph).

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

Adjacency List of Directed Graph (digraph):

A → C → D ⫼

B → A → E ⫼

C → E ⫼

D ⫼

E → C → F ⫼

F ⫼

←——————→
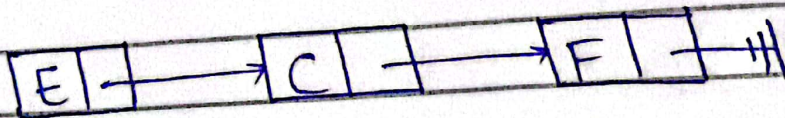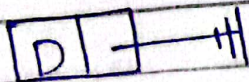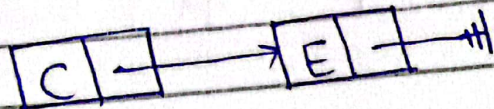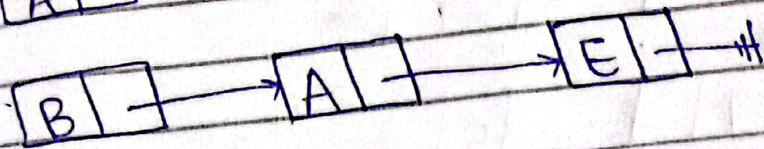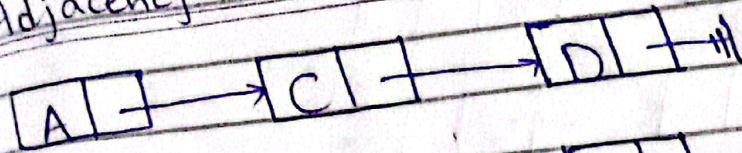
Adjacency Matrix of Weighted Graph:

	A	B	C	D	E	F
A	0	6	5	8	0	0
B	6	0	0	0	7	0
C	5	0	0	0	5	0

CamScanner

	A	B	C	D	E	F
D	8	0	0	0	0	0
E	0	7	5	0	0	9
F	0	0	0	0	9	0

Adjacency List of Weighted Graph:

A → 6 → 5 → 8 ⊣

B → 6 → 7 ⊣

C → 5 → 5 ⊣

D → 8 → 5 ⊣

E → 7 → 5 → 9 ⊣

F ⊣

$\longleftrightarrow$

Lab Task 2:

Graph 1(Simple Graph):

Boston

Detriot

Newark

Washington

Miami
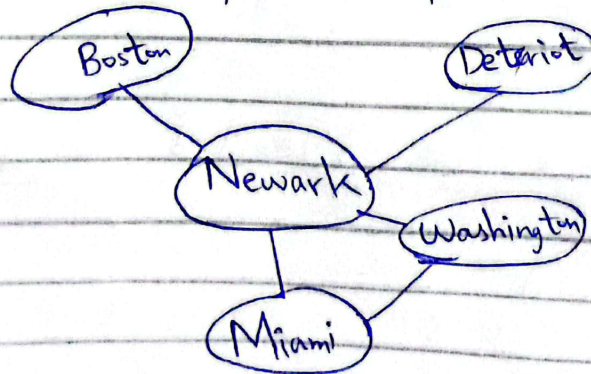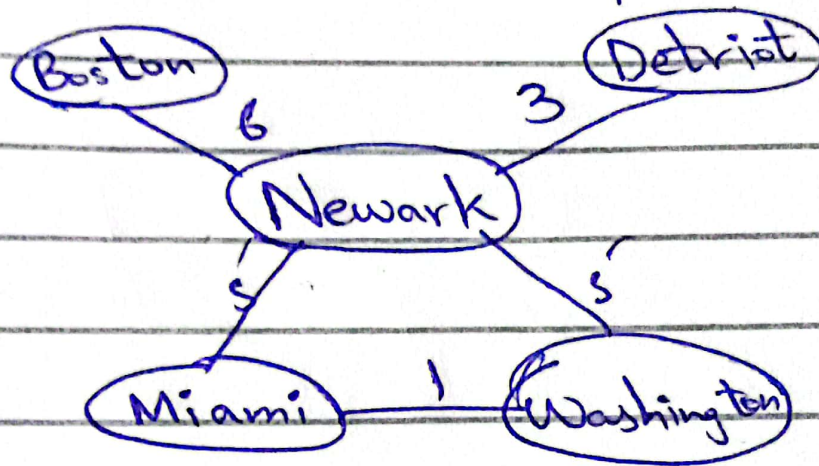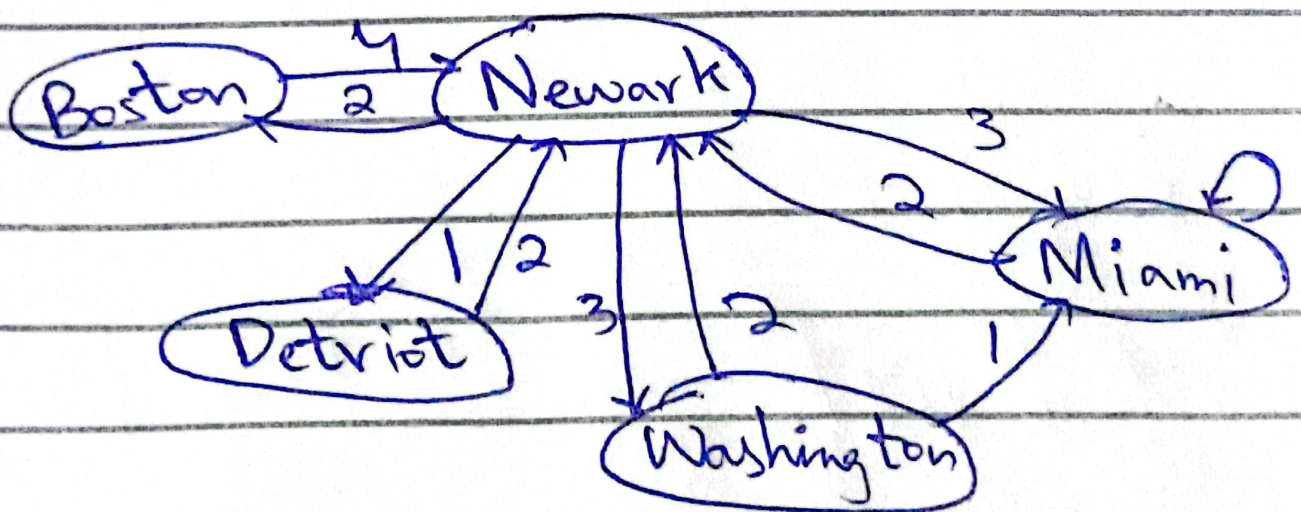
Graph 2 (Weighted Graph):

Graph 3:

Lab Task 3:

To represent whether each person in a cla[ss]
knows the name of every other pers[on]

We use:

Directed edges: Because knowing someone's
name is not necessarily mutual.

No multiple edges: One edge is enough
to represent that one person knows
another's name.

No loops: No need to show a ~~name~~ person
knowing their own name' as its always
true.