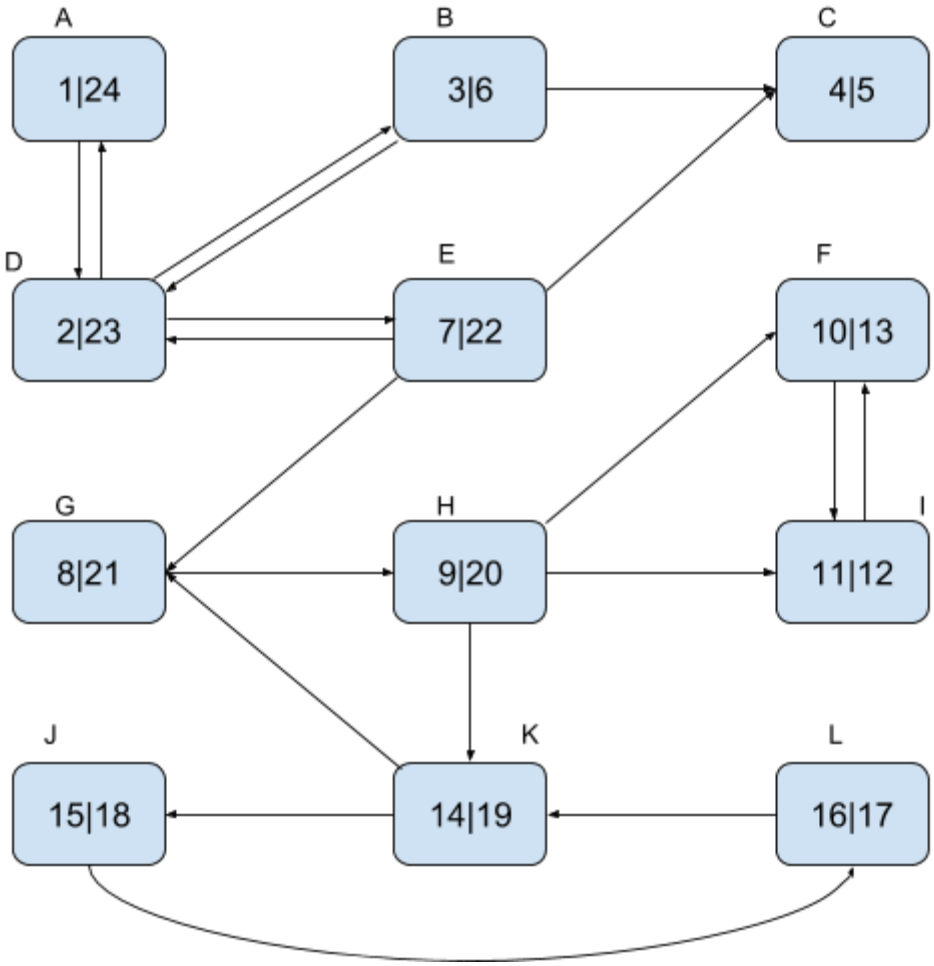
NAME : - Jinggui Tan & Siddhant Barua
CWID :- 10427381 & 10439929

Assignment 6

Q1. [a]



Ascending (A □ L)

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Nodes(u)	Start Time(u.d)	Finish Time(u.f)
A	1	24
B	3	6
C	4	5
D	2	23
E	7	22
F	10	13
G	8	21
H	9	20
I	11	12
J	15	18
K	14	19
L	16	17

`

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Edge (u,v)	Tree	Back	Forward	Cross
A,D	T	F	F	F
D,A	F	T	F	F
D,B	T	F	F	F
B,D	F	T	F	F
B,C	T	F	F	F
D,E	T	F	F	F
E,D	F	T	F	F
E,C	F	F	F	T
E,G	T	F	F	F
G,H	T	F	F	F
H,F	T	F	F	F
H,I	T	F	F	F
F,I	F	F	T	F
I,F	F	T	F	F
H,K	T	F	F	F
K,J	T	F	F	F
J,L	T	F	F	F
L,K	F	T	F	F
K,G	F	T	F	F

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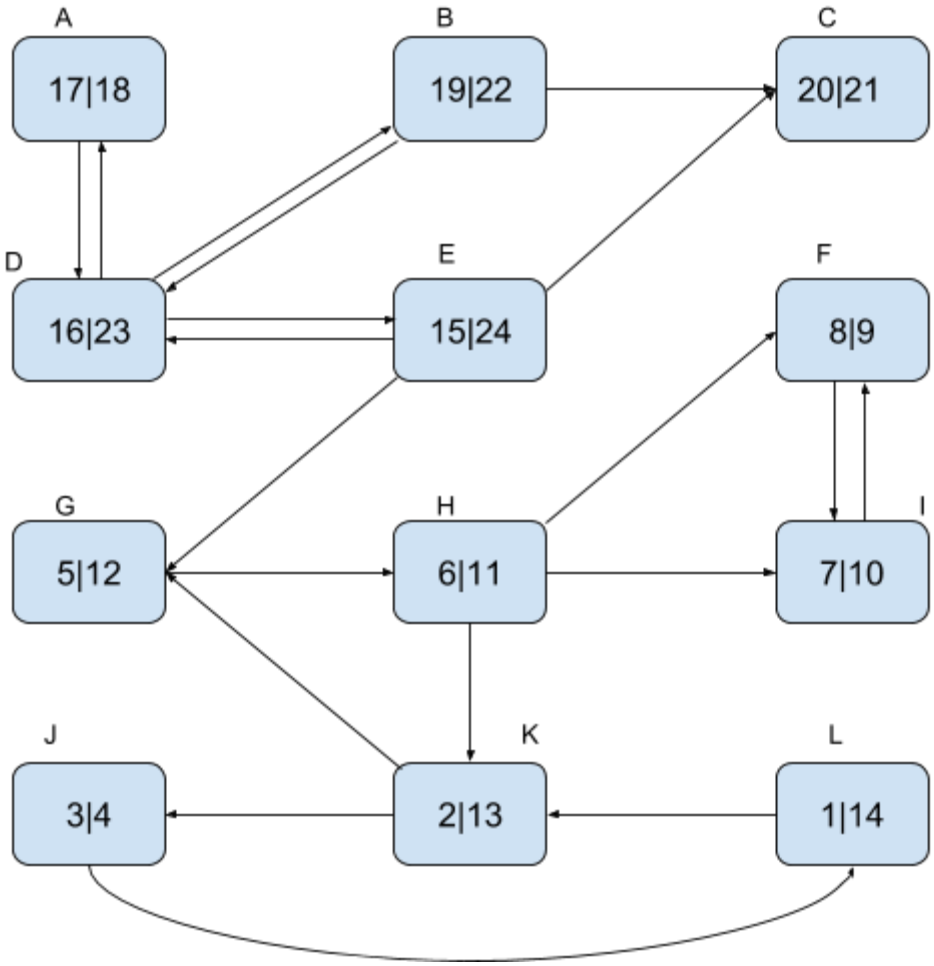
Q1. [b]



Descending (L □ A)

NAME : - Jinggui Tan & Siddhant Barua
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Nodes(u)	Start Time(u.d)	Finish Time(u.f)
A	17	18
B	19	22
C	20	12
D	16	23
E	15	24
F	8	9
G	5	12
H	6	11
I	7	10
J	3	4
K	2	13
L	1	14

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Edge (u,v)	Tree	Back	Forward	Cross
A,D	T	T	F	F
D,A	F	F	T	F
D,B	T	F	F	F
B,D	F	T	F	F
B,C	T	F	F	F
D,E	T	T	F	F
E,D	F	F	T	F
E,C	F	F	T	F
E,G	T	F	F	F
G,H	T	F	F	F
H,I	T	F	F	F
H,F	T	F	F	F
F,I	F	T	F	F
I,F	F	F	T	F
H,K	T	T	F	F
K,J	T	F	F	F
J,L	T	T	F	F
L,K	F	F	T	F
K,G	F	F	T	F

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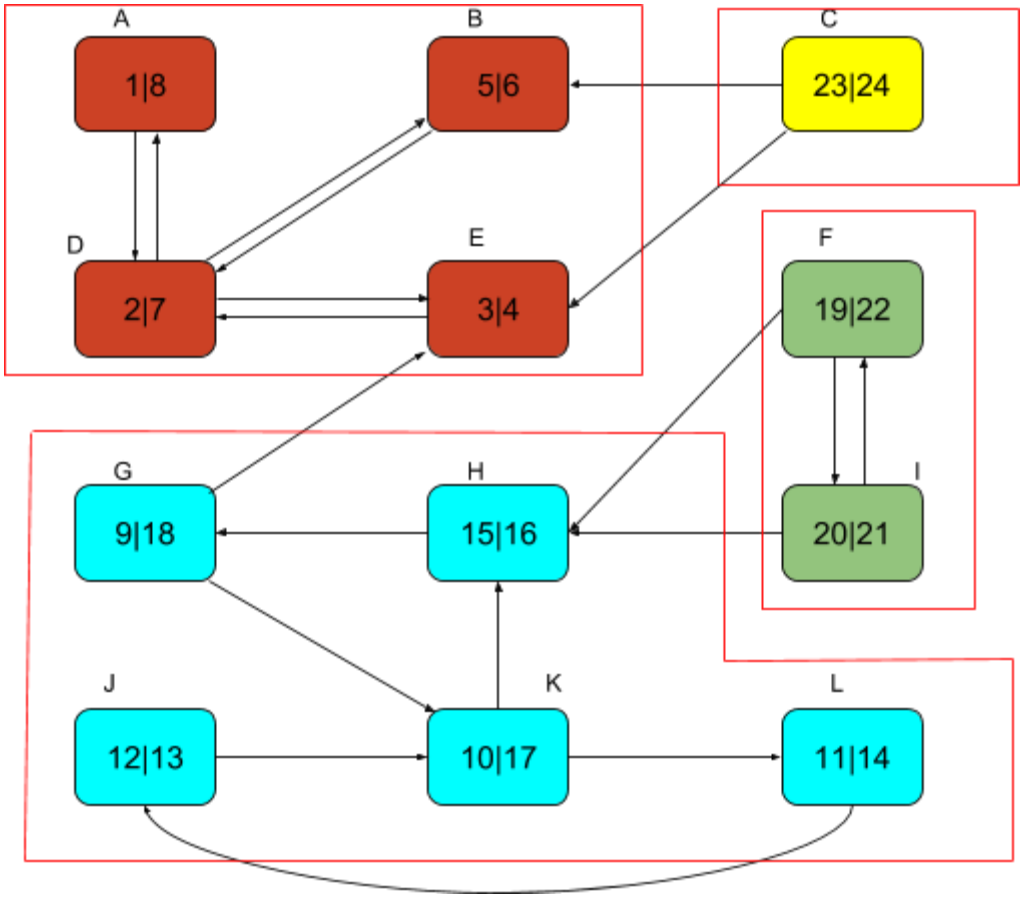
Q1. [c]



SCC for Ascending (A □ L)

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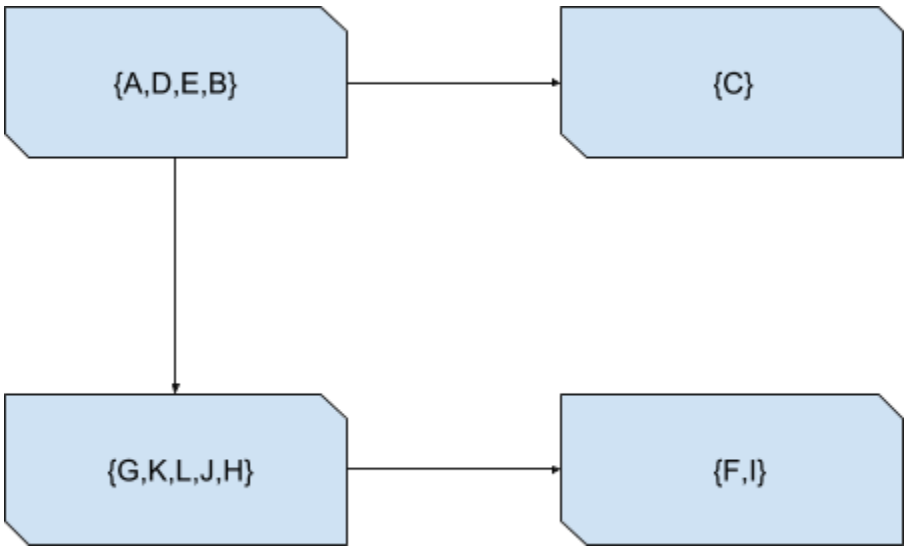
Strongly Connected Component 1

Strongly Connected Component 2

Strongly Connected Component 3

Strongly Connected Component 4

For G



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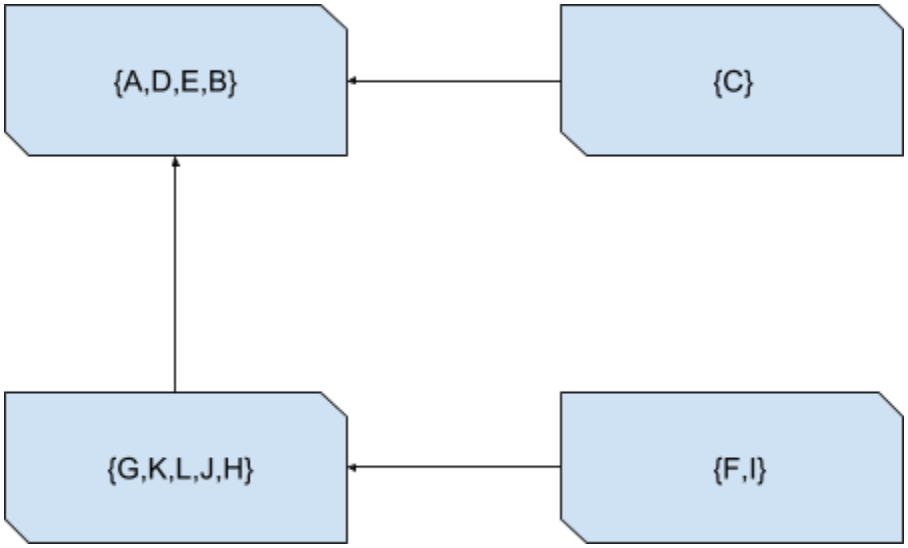
For G^T



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Nodes(u)	Start Time(u.d)	Finish Time(u.f)
A	1	8
B	5	6
C	23	24
D	2	7
E	3	4
F	19	22
G	9	18
H	15	16
I	20	21
J	12	13
K	10	17
L	11	14

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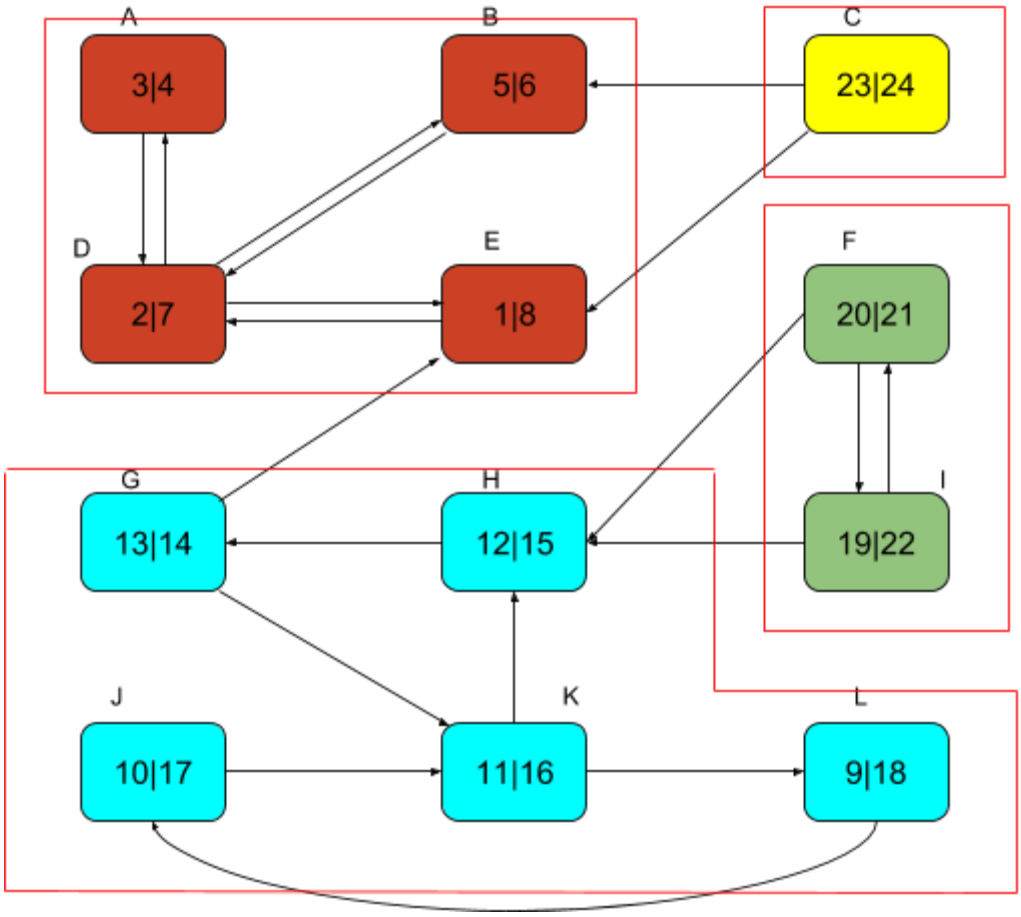
Q1.[d]



Strongly Connected Component 1

Strongly Connected Component 2

Strongly Connected Component 3

Strongly Connected Component 4

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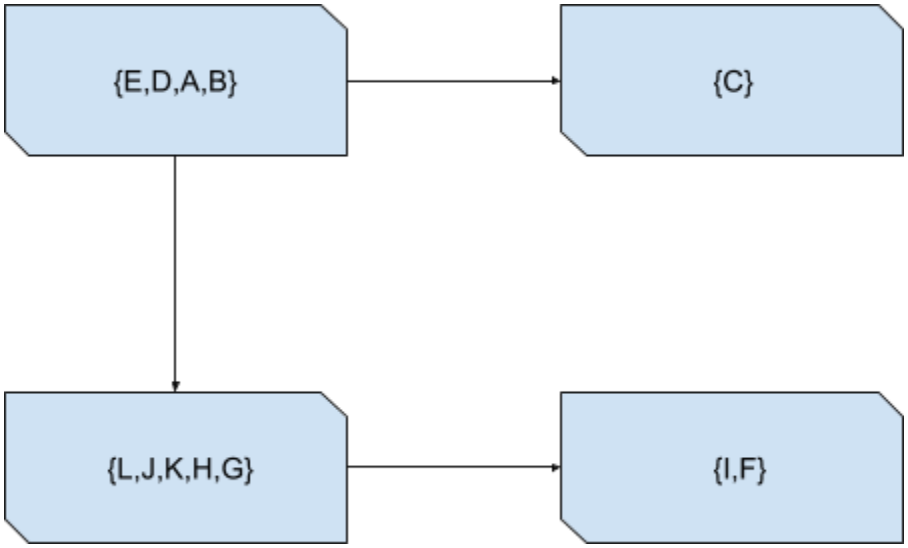
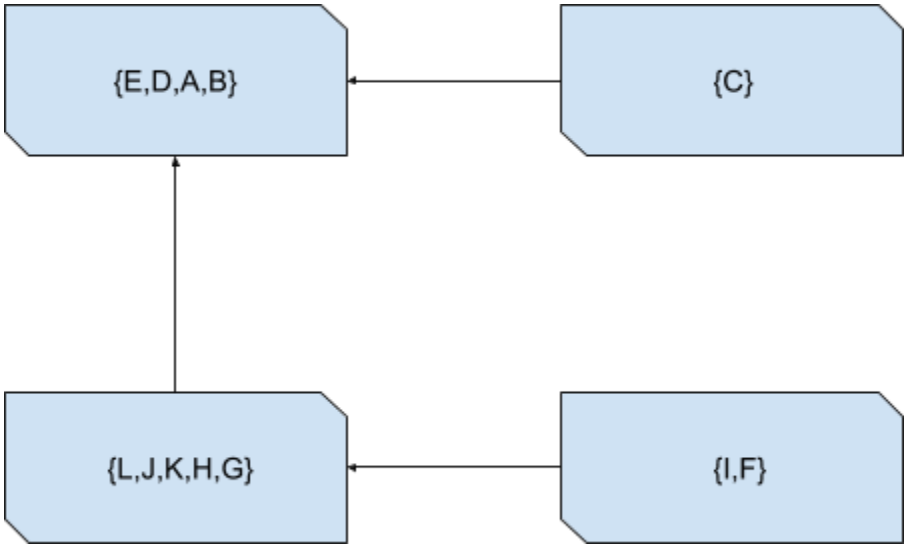
For G



For G^T



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CWID :- 10427381 & 10439929

SCC for Descending (L □ A)

Nodes(u)	**Start Time(u.d)**	**Finish Time(u.f)**
A	3	4
B	5	6
C	23	24
D	2	7
E	1	8
F	20	21
G	13	14
H	12	15
I	19	22
J	10	17
K	11	16
L	9	18

NOTE : We used the graph above as our test case. Now for 1.[b] D can go to either node A or node B, In our written solution we've considered D -> A while in our program D -> B is considered. The same situation can happen in other junctures of choice.