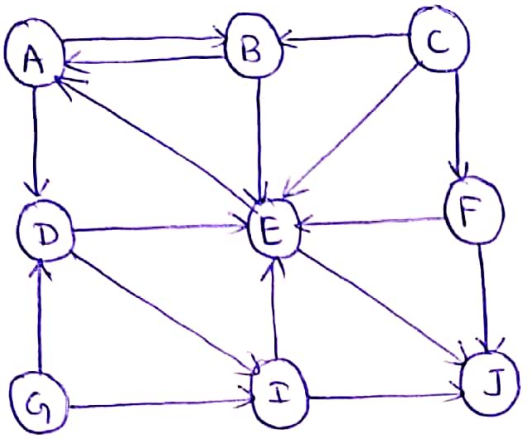
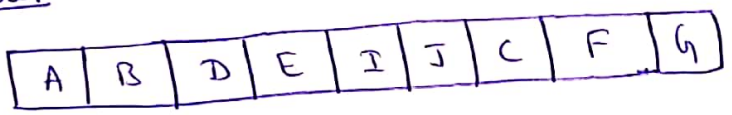
ASSIGNMENT-2

For the given below 2 graphs, Show the DFS as well as BFS traversal. Show the Stack and queue contents obtaining during traversal, Also, draw the output graphs.

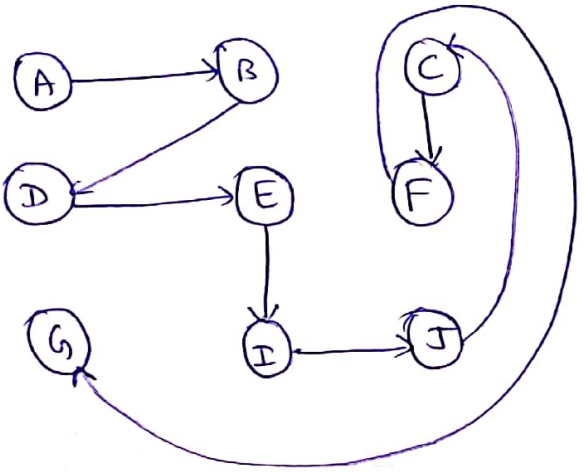


BFS:

Queue



Output Graph



DFS:

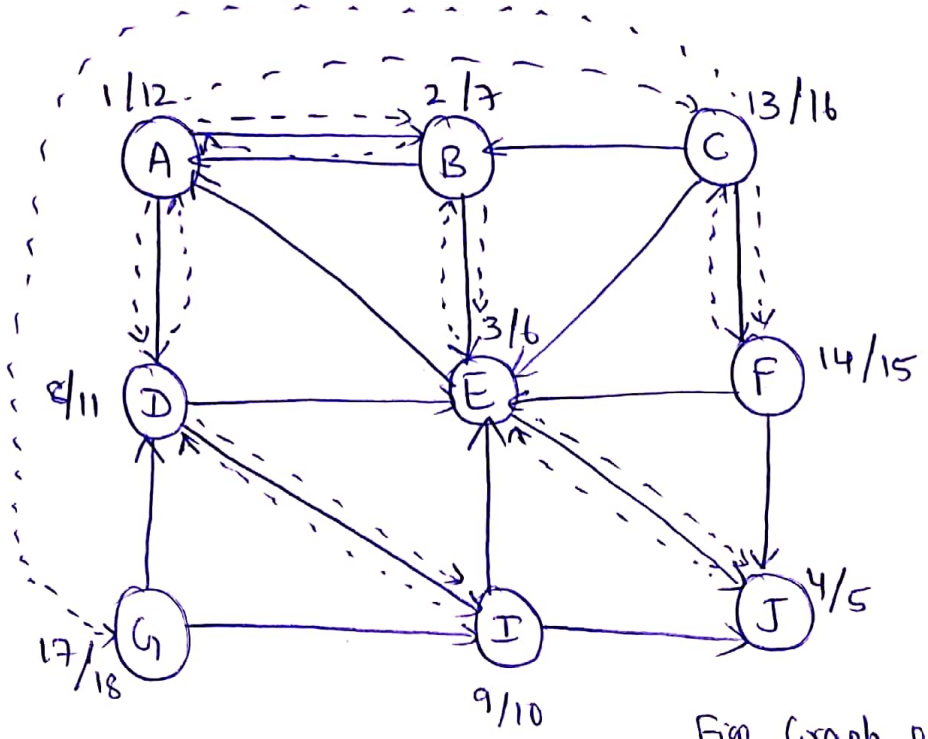
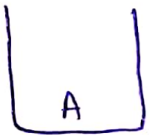


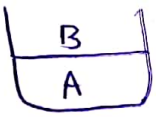
Fig Graph output representation

Step 1:



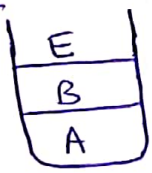
Result: A

Step 2:



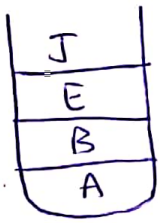
Result: A, B

Step 3:



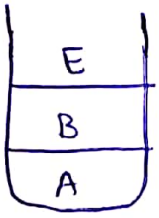
Result: A, B, E

Step 4:



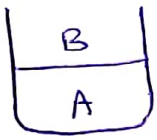
Result: A, B, E, J

Step 5: Pop top element 'J'.



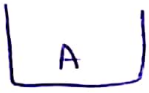
Result: A, B, E, J

Step 6: Pop 'E'



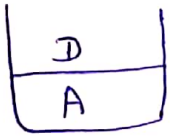
Result: A, B, E, J

Step 7: Pop 'B'



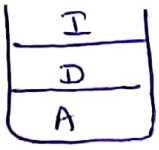
Result: A, B, E, J

Step 8:



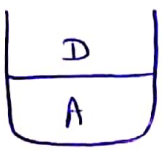
Result: A, B, E, J, D

Step 9:



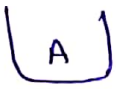
Result: A, B, E, J, D, I

Step 10: Pop 'I'



Result: A, B, E, J, D, I

Step 11: Pop 'D'

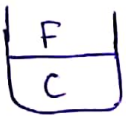


Result: A, B, E, J, D, I

Step 12: Pop 'A' stack is Empty

Result: A, B, E, J, D, I

Step 13:



Result: A, B, C, J, D, I, C, F

Step 14: Pop 'F'

Result: A, B, C, J, D, I, C, F

Step 15: Pop 'C'

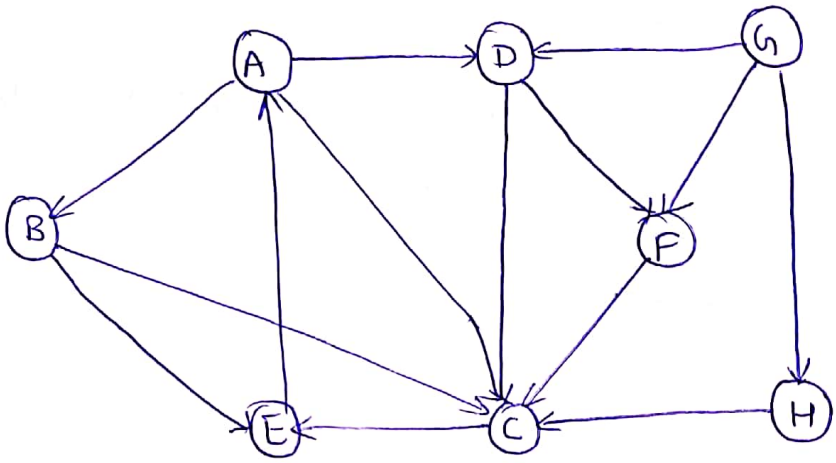
Result: A, B, C, J, D, I, C, F

Step 16:

Result: A, B, C, J, D, I, C, F, G

Step 17: Pop 'G', Stack is Empty,

(2)

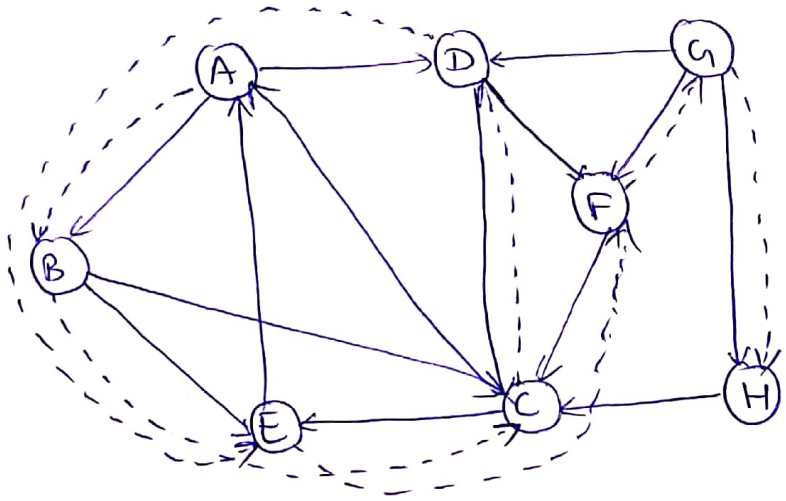


BFS:

Queue

A	B	C	D	E	F	G	H

Output Graph representation:



DFS:-

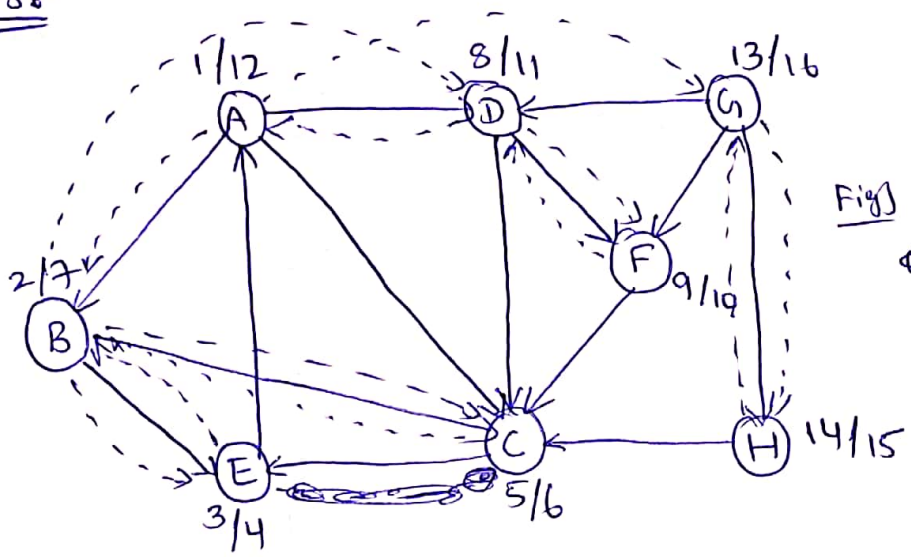
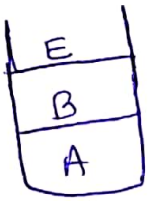
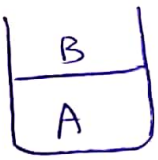


Fig: output Graph representation

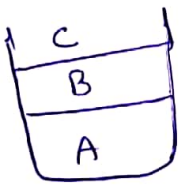
Step1: 

Result: A, B, E

Step 2: Pop 'E'

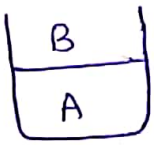


Result: A, B, E

Step3: 

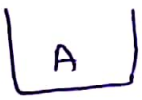
Result: A, B, E, C

Step4: Pop 'C'

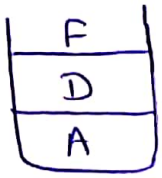


Result: A, B, E, C

Step 5: Pop 'B'



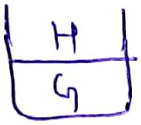
Result: A, B, E, C

Step 6: 

Result: A, B, E, C, D, F

Step 7: Pop F, D, A. Stack is empty.

Result: A, B, E, C, D, F

Step 8: 

Result: A, B, E, C, D, F, G, H

Step 9: Pop H & G, Stack is empty.

Result is: A, B, E, C, D, F, G, H