Maxflow and Mincut

1/3 points earned (33%)

You haven't passed yet. You need at least 66% to pass.
Review the material and try again! You have 3 attempts every 8 hours.

Review Related Lesson

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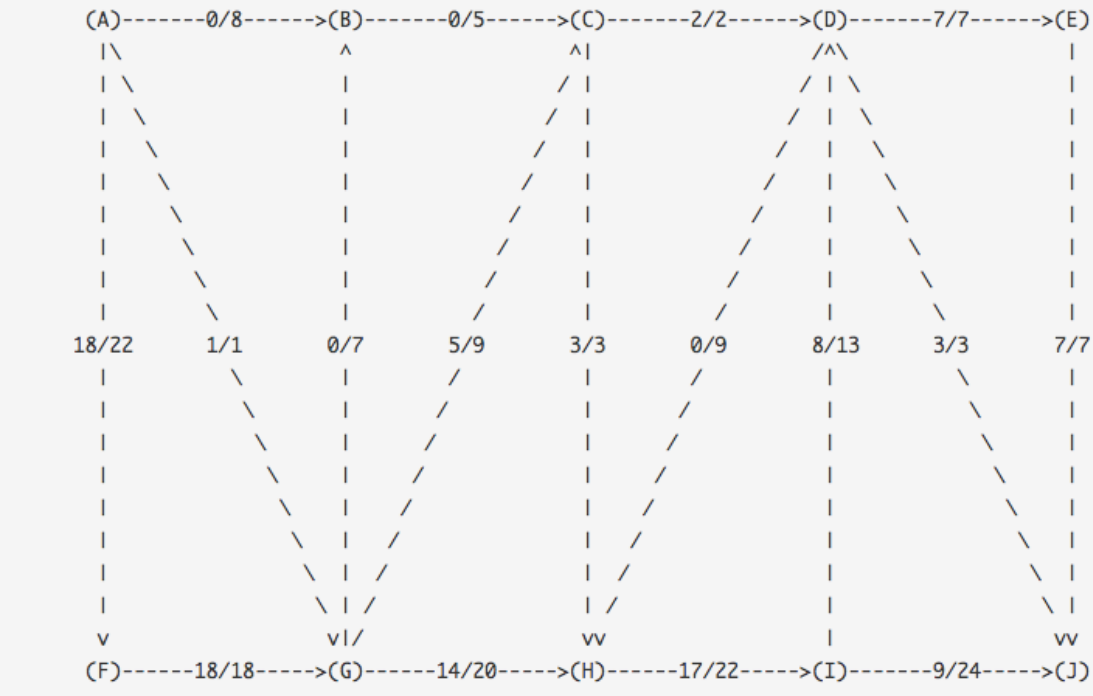
1 / 1
points

1.
(seed = 943349)

Suppose that you are computing a max flow from the source vertex A to the sink vertex J in the flow network given below:

```
edge   flow  /  capacity
-----------------------
A->B      0  /   8
A->F     18  /  22
A->G      1  /   1
B->C      0  /   5
C->D      2  /   2
C->H      3  /   3
D->E      7  /   7
D->H      0  /   9
D->J      3  /   3
E->J      7  /   7
F->G     18  /  18
G->B      0  /   7
G->C      5  /   9
G->H     14  /  20
H->I     17  /  22
I->D      8  /  13
I->J      9  /  24
```

Here is a graphical representation of the same flow network:



Starting from the given flow (of value 19), give the sequence of vertices in the next (and final) augmenting path discovered by the Ford-Fulkerson algorithm.

A B C G H I J

Correct Response

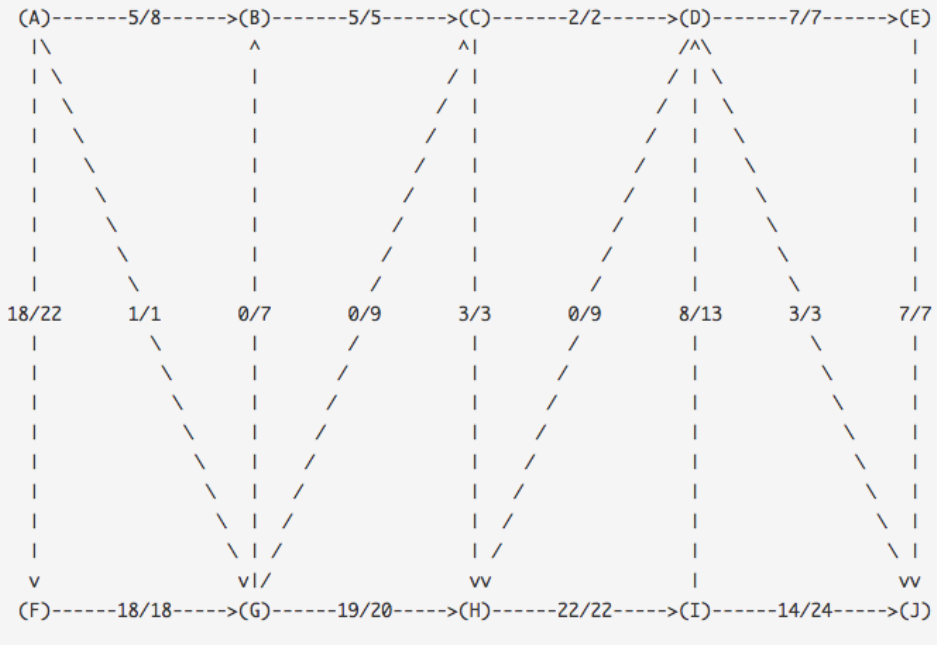
```
The correct answer is: A B C G H I J


augmenting path:     A->B->C->G->H->I->J
bottleneck capacity: 5
value of flow:       24

Here is the final flow network:

    edge   flow  /  capacity
    ------------------------
    A->B      5  /   8
    A->F     18  /  22
    A->G      1  /   1
    B->C      5  /   5
    C->D      2  /   2
    C->H      3  /   3
    D->E      7  /   7
    D->H      0  /   9
    D->J      3  /   3
    E->J      7  /   7
    F->G     18  /  18
    G->B      0  /   7
    G->C      0  /   9
    G->H     19  /  20
    H->I     22  /  22
    I->D      8  /  13
    I->J     14  /  24
```

Here is a graphical representation of the final flow network:



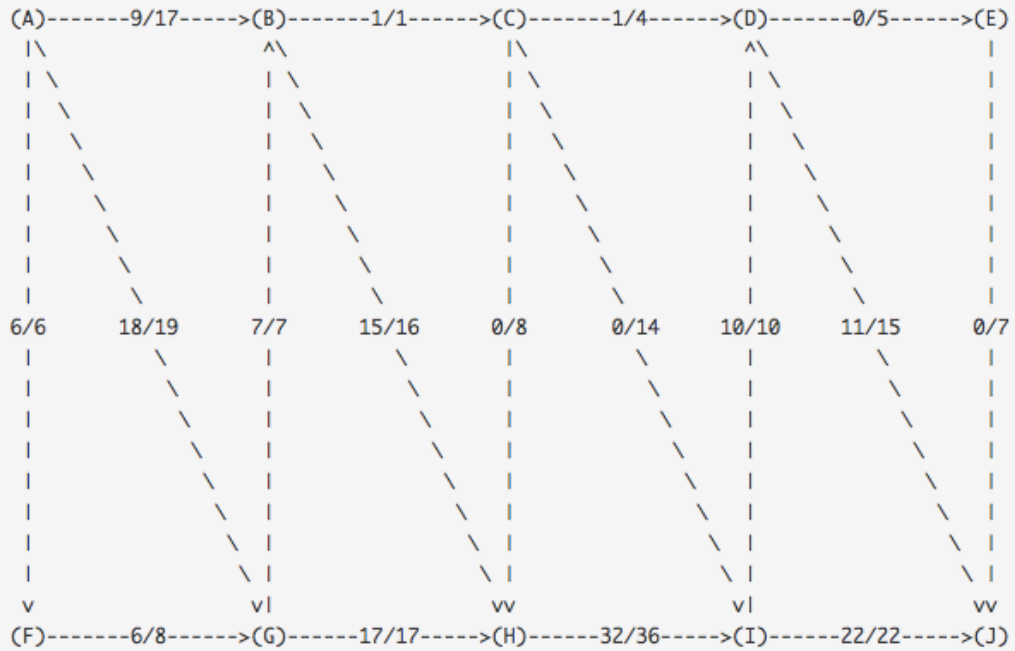
0 / 1 points

2.

(seed = 536089)
Consider the flow network with 10 vertices and 17 edges:

edge	flow	/	capacity
A->F	6	/	6
A->G	18	/	19
A->B	9	/	17
G->B	7	/	7
B->H	15	/	16
B->C	1	/	1
C->I	0	/	14
C->D	1	/	4
C->H	0	/	8
I->D	10	/	10
D->J	11	/	15
D->E	0	/	5
E->J	0	/	7
F->G	6	/	8
G->H	17	/	17
H->I	32	/	36
I->J	22	/	22

Here is a graphical representation of the same flow network:



The flow given above is a maxflow from A to J. What is the corresponding mincut?
List the vertices on the s side of mincut in alphabetical order.