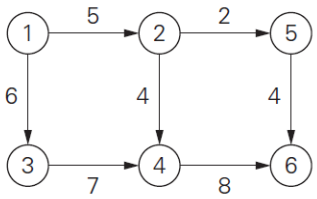
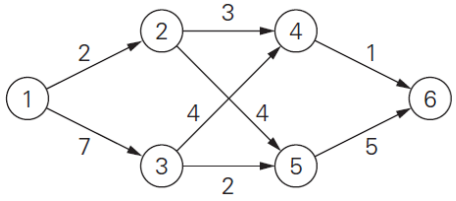
Eclipse, Kliezl P. Exercise 10.2-2

Q: Apply the shortest-augmenting path algorithm to find a maximum flow and a minimum cut in the following networks.

a.

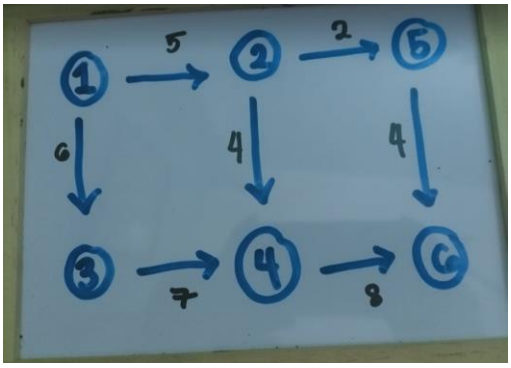


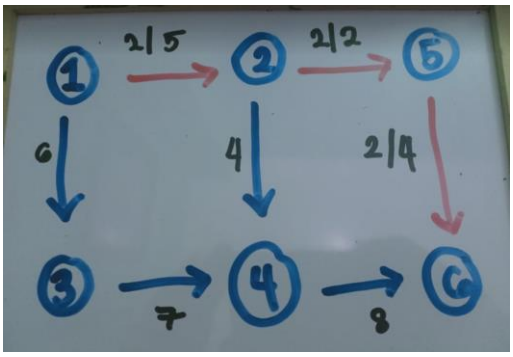
b.

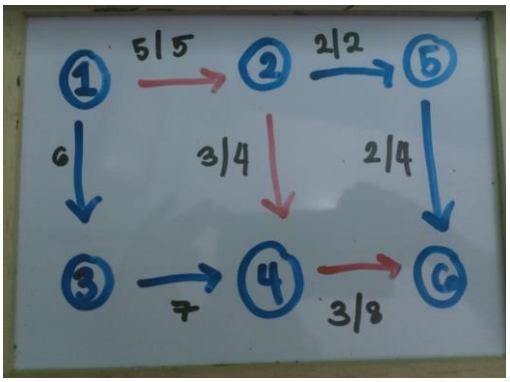


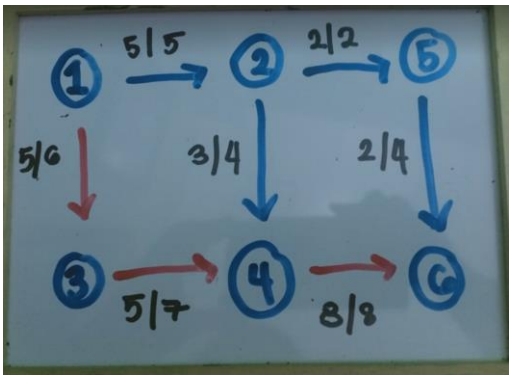
A:

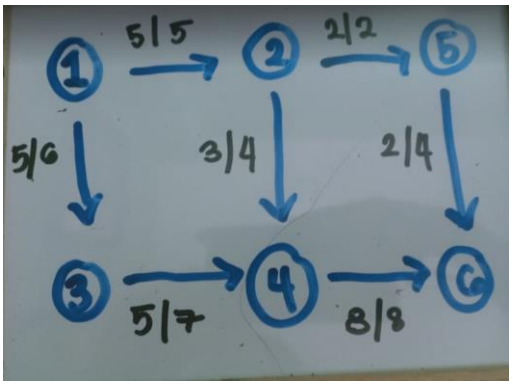
a.



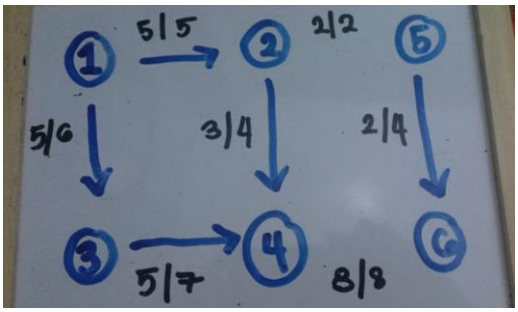




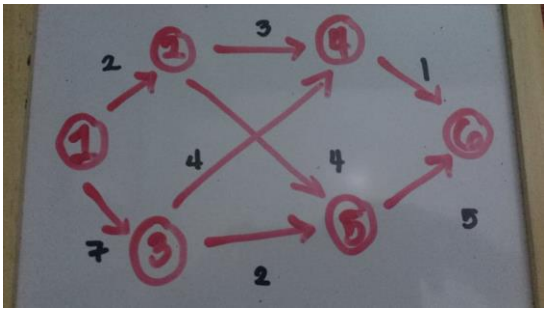


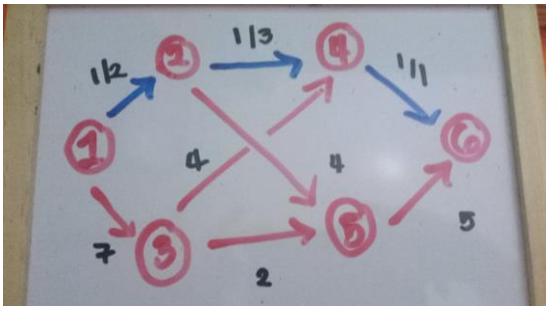


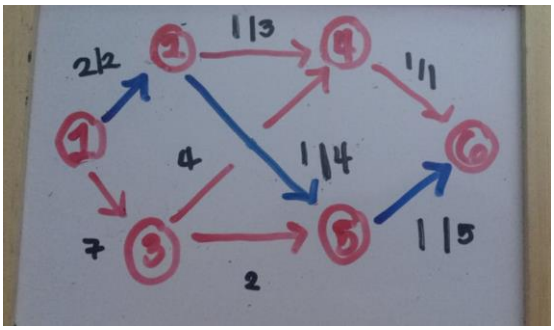
Maximum flow = 2 + 3 + 5 = 10
Minimum cut at {(2,3), (4, 6)}

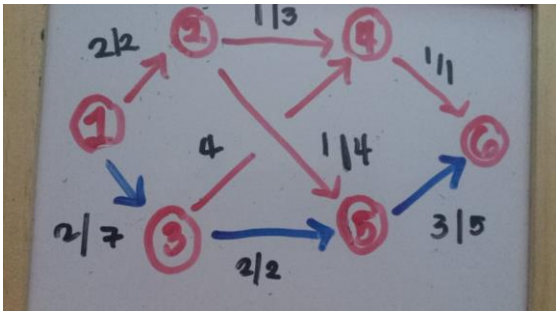


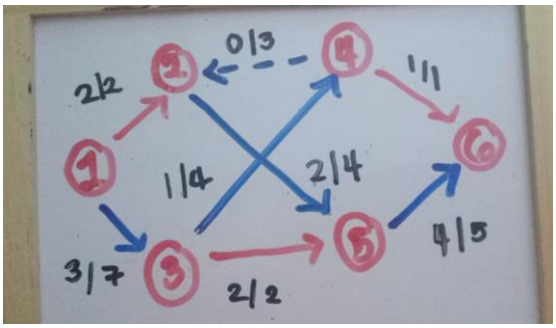
b.

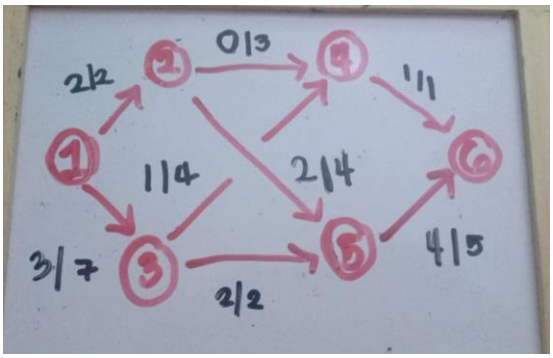

1
2
3
4
5
6
2
4
4
3
1
5
7
2


1
2
3
4
5
6
1|2
1|3
1|1
4
4
5
7
2


1
2
3
4
5
6
2k
1|3
1|1
4
1|4
1|5
7
2


1
2
3
4
5
6
2k
1|3
1|1
4
1|4
2|7
3|5
2|2


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



Maximum Flow = 1 + 1 + 2 + 1 = 5
Minimum cut at {(1, 2), (3, 5), (4, 6)}