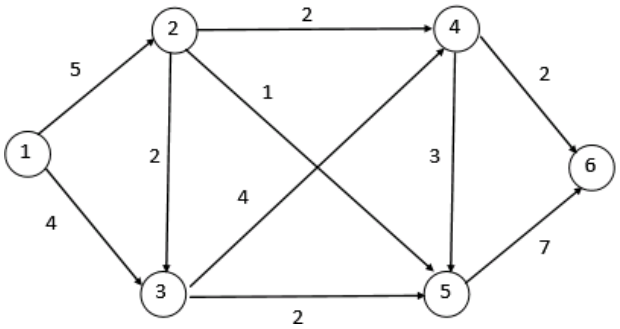
Step-1

Consider the following 6-node network with the corresponding edge capacities.



The maximum flow along the various paths of the network is shown below.

Path	Maximum flow
Node 1-2-5-6	1
Node 1-2-3-5-6	2
Node 1-2-4-6	2
Node 1-3-4-5-6	3
Total	**8**

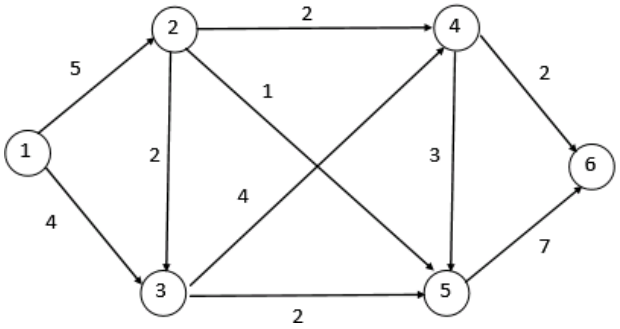
Step-2

Let us produce the largest increase in maximum flow value, by increasing the capacity of any one pipe in the above network.

It is observed that in the original network, the capacity of almost all the paths is exhausted except the paths 1-3, 3-4 and 5-6 (which is 1 in each case).

Therefore, by increasing the capacity of any of the pipe 4-6 or 4-5 will produce the largest increases in the maximum flow value.

The new network is as follows



The maximum flow along the various paths of the new network is shown below.

Path	Maximum flow
Node 1-2-5-6	1
Node 1-2-3-5-6	2
Node 1-2-4-6	2
Node 1-3-4-5-6	3
Node 1-3-4-6	**1**
Total	**9**

Thus, it is observed the maximum flow is **9**