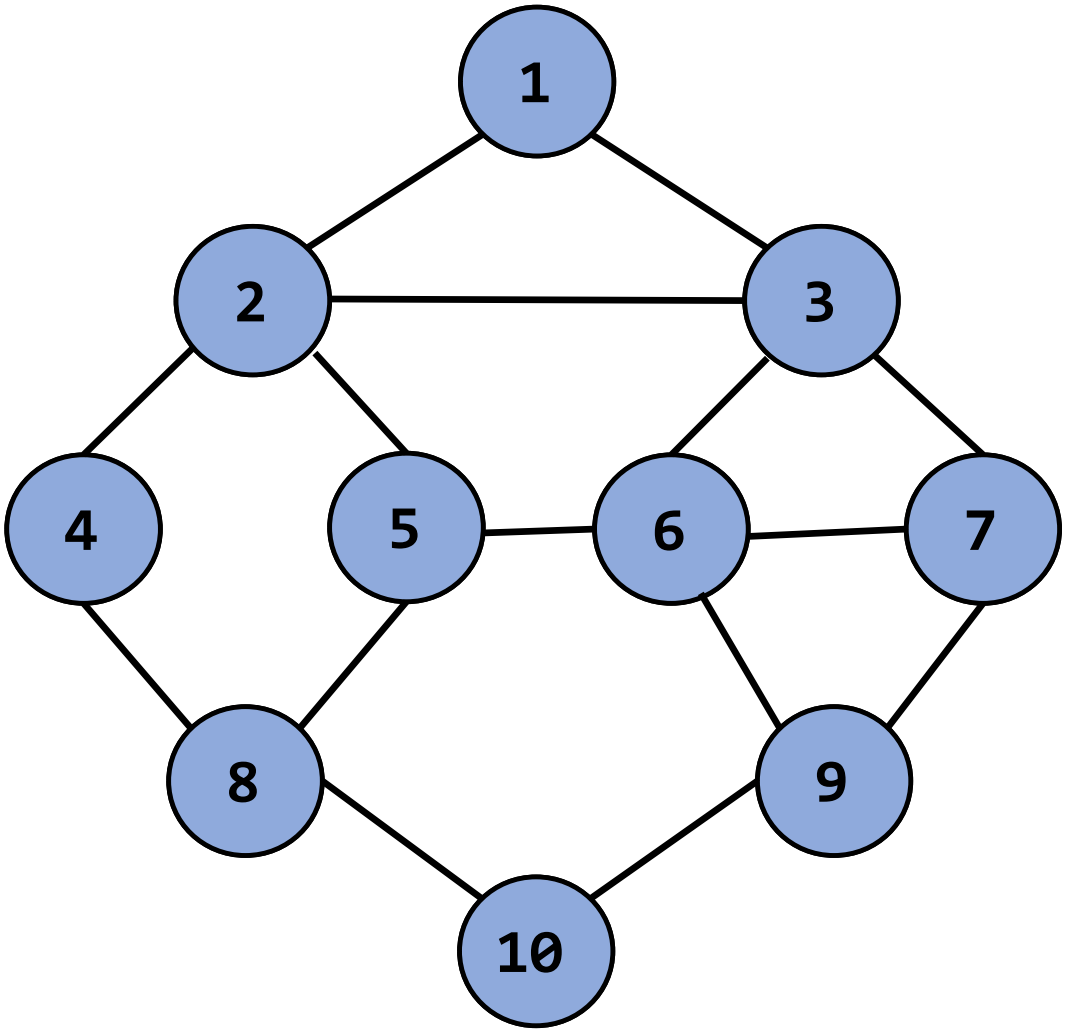
Breadth First Search For Graphs

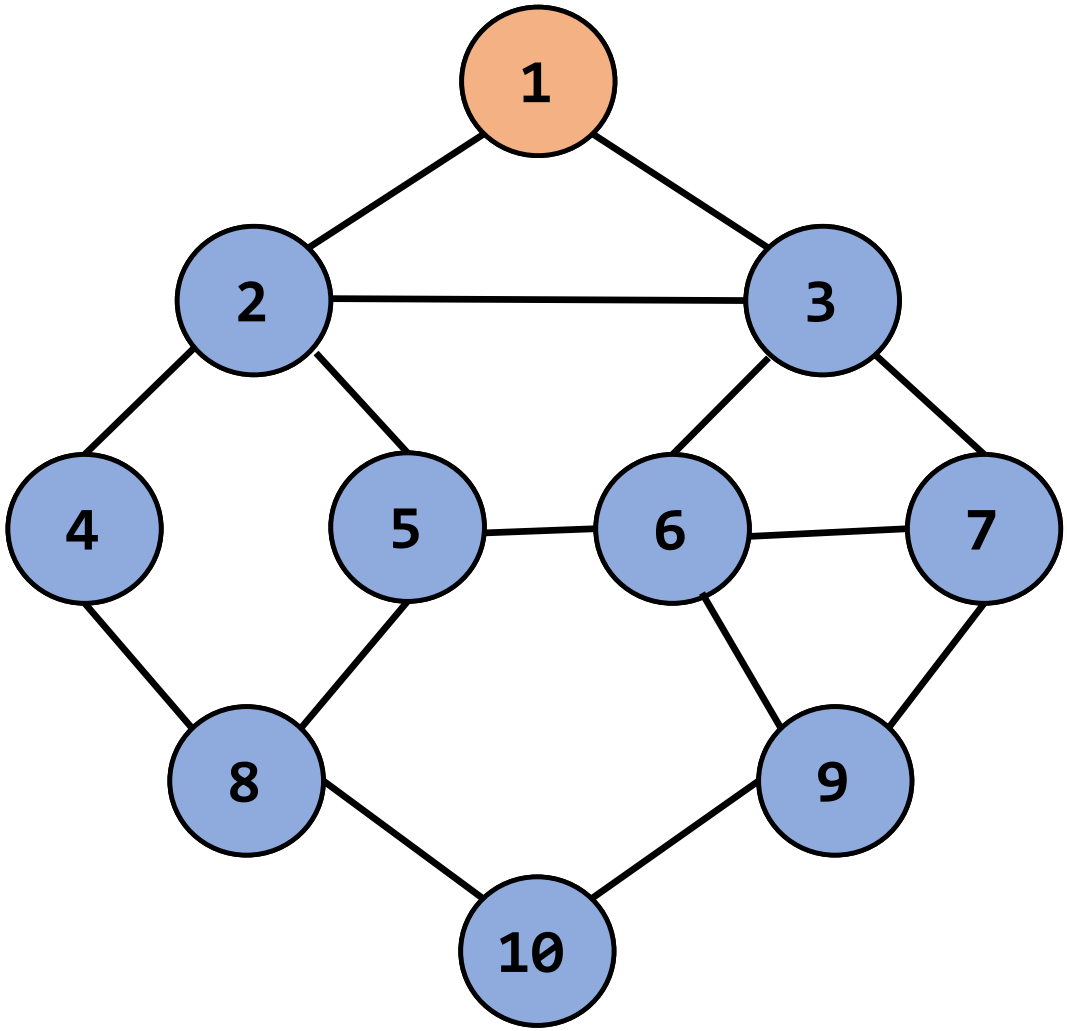
Graph -



QUEUE→ 1

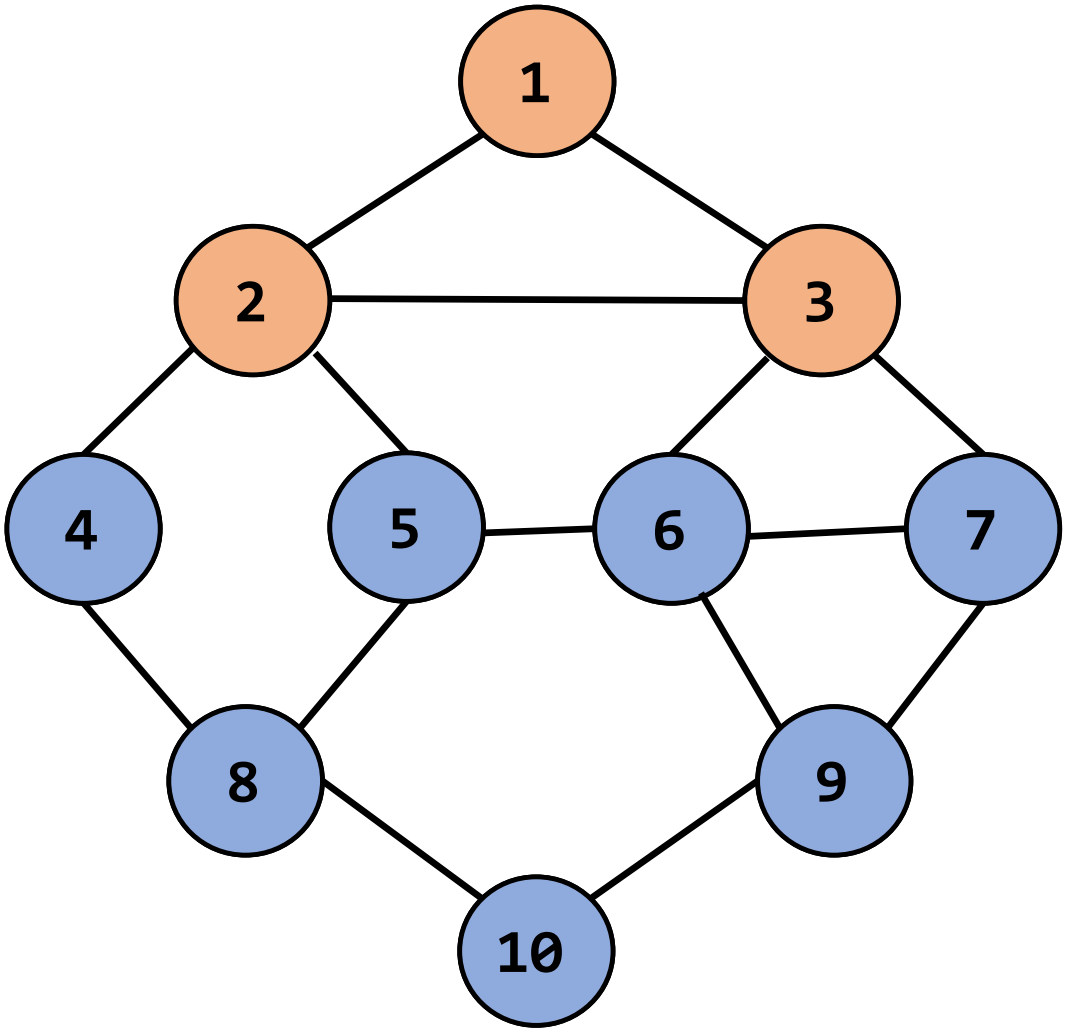
OUTPUT→

Now, we will mark the node 1 as visited and put the vertices adjacent to the node 1 in the queue and remove it from queue.



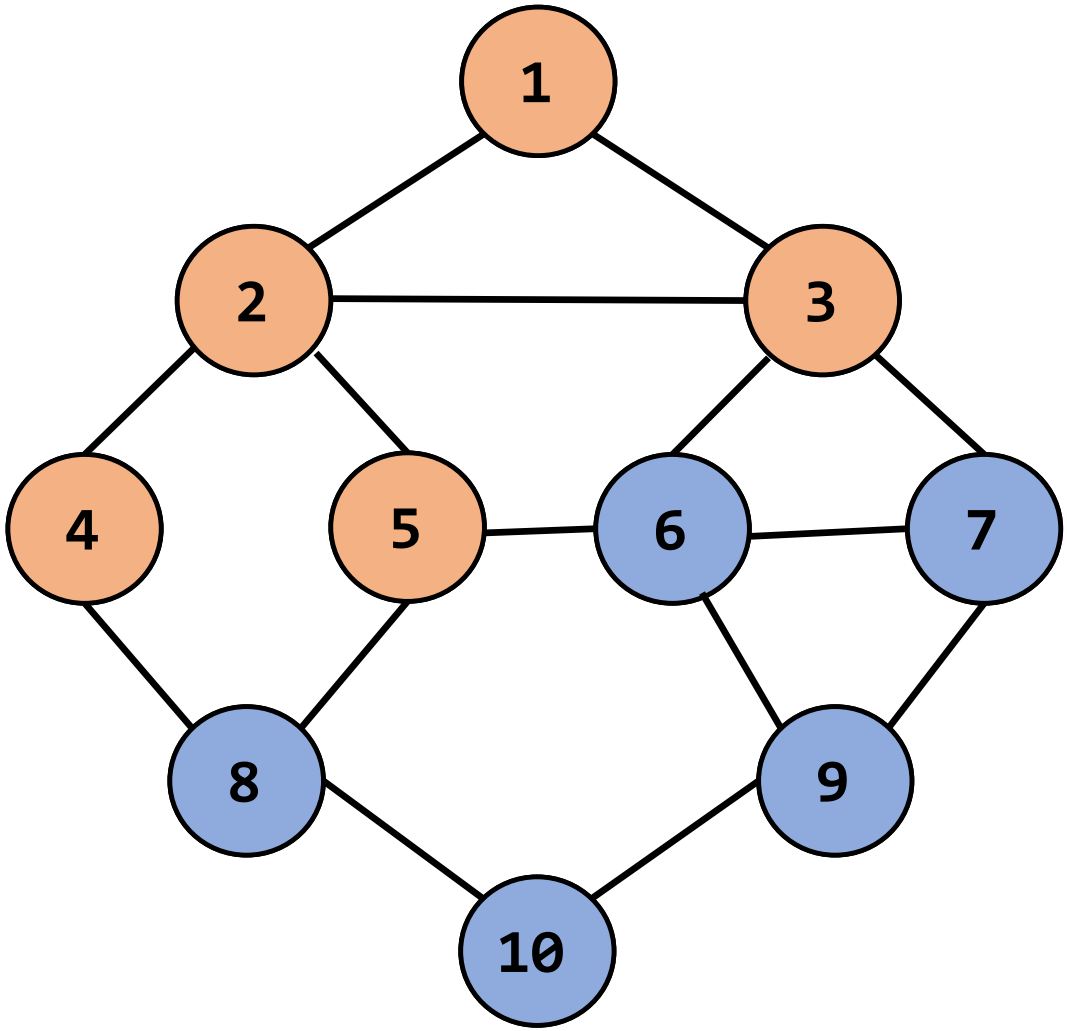
QUEUE→ 2 3

OUTPUT→ 1



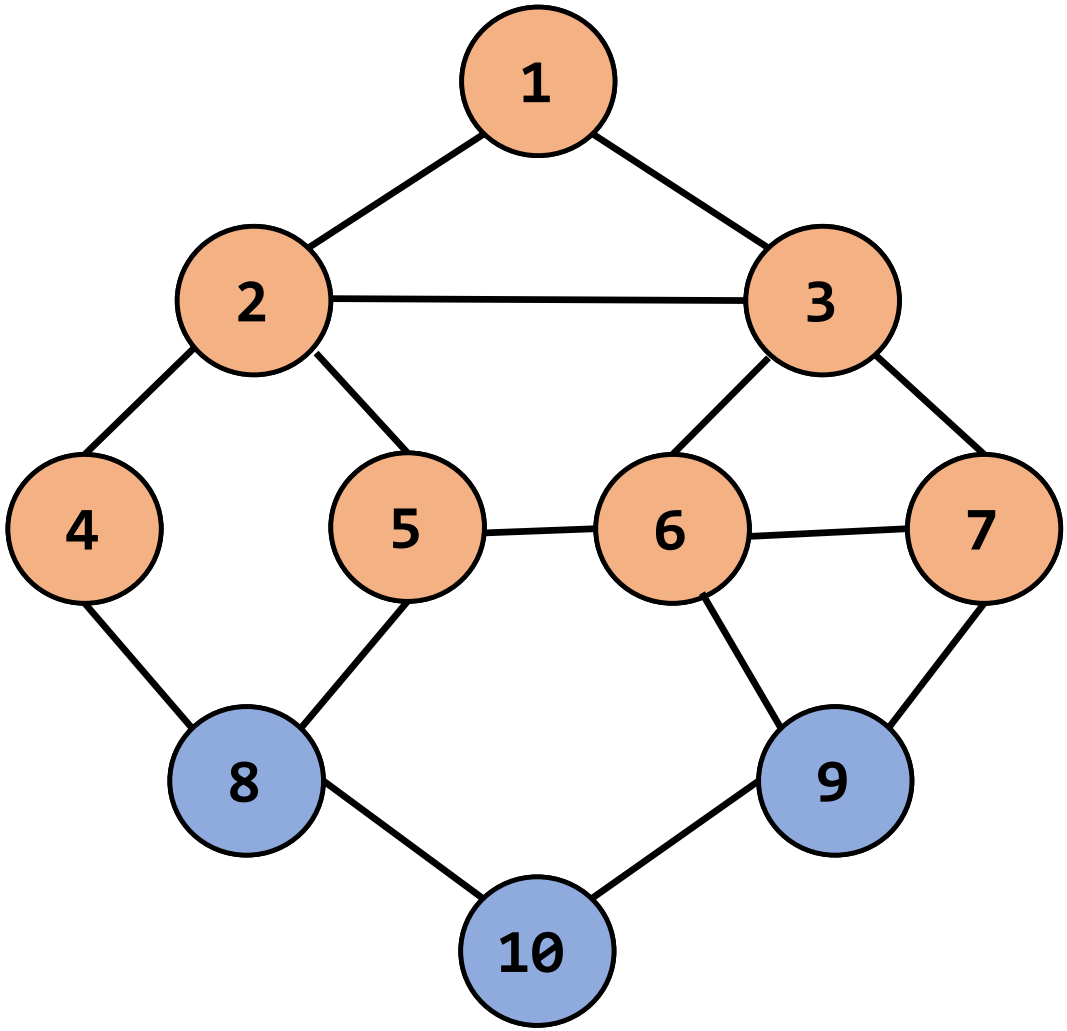
QUEUE→ 3 4 5

OUTPUT→ 1 2



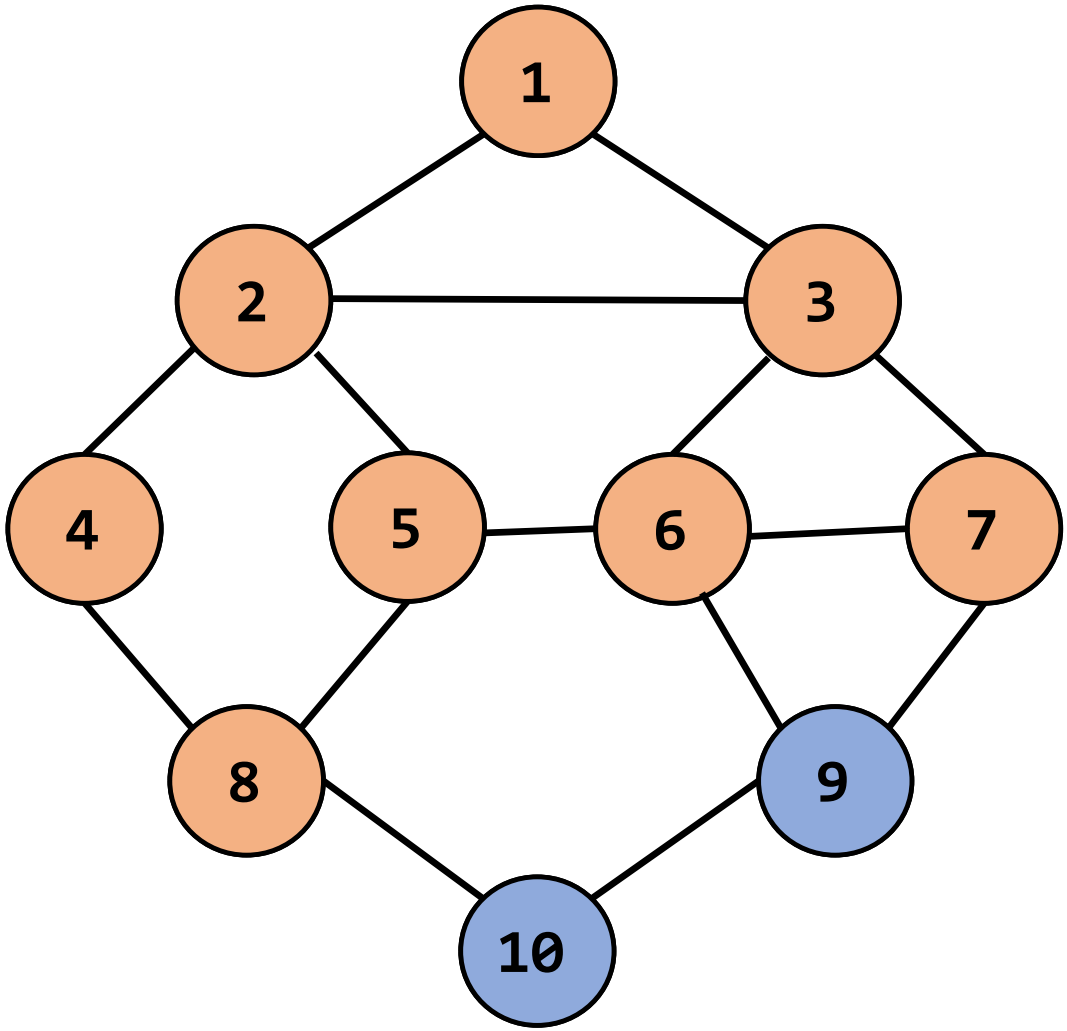
QUEUE→ 4 5 6 7

OUTPUT→ 1 2 3



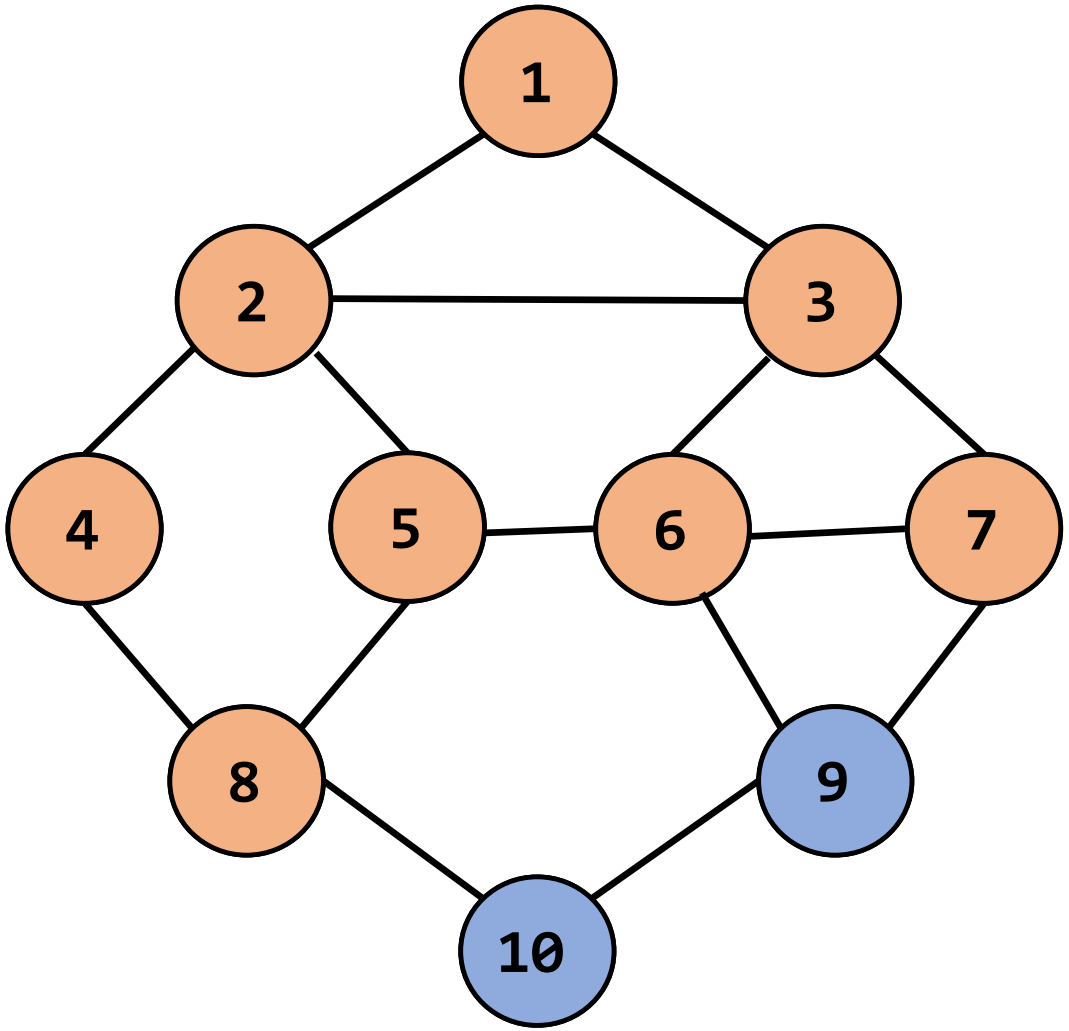
QUEUE→ 5 6 7 8

OUTPUT→ 1 2 3 4



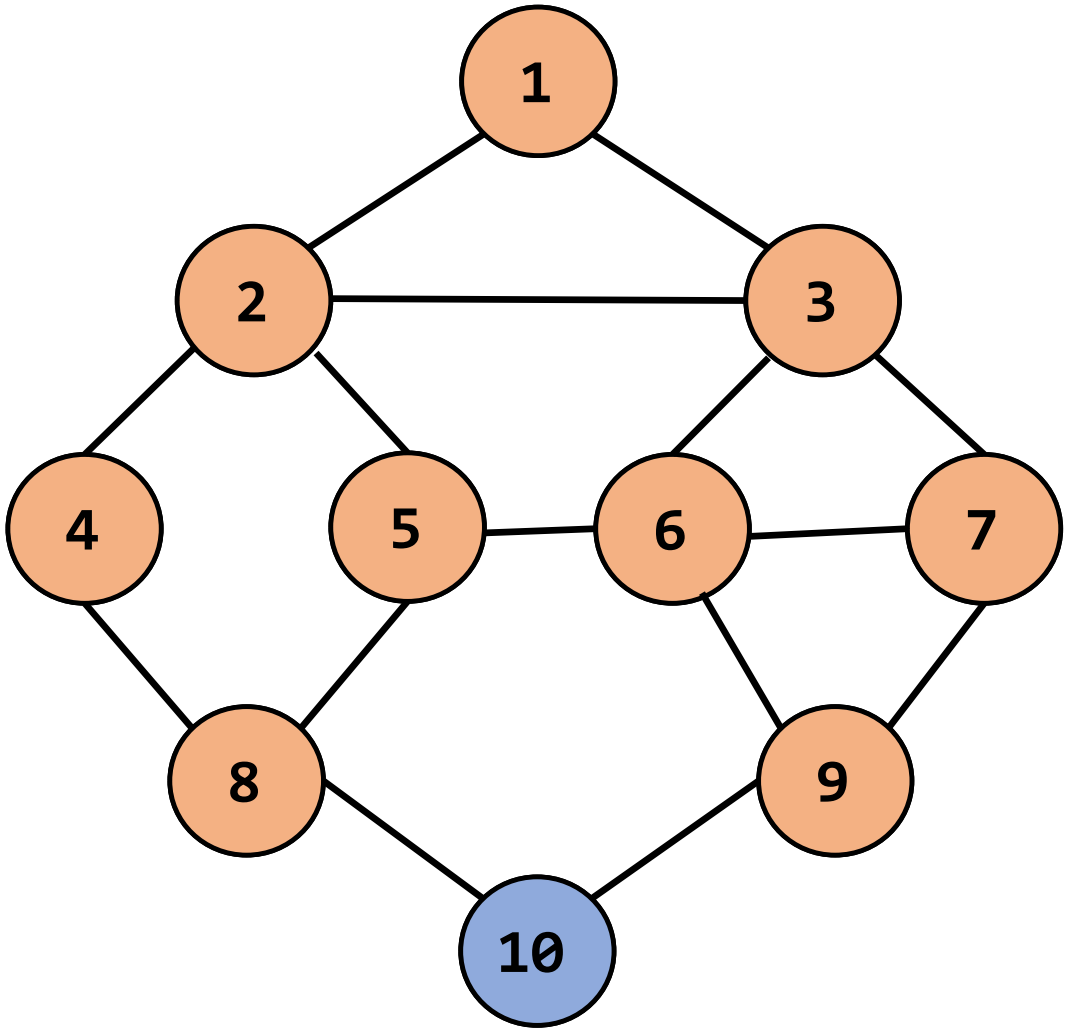
QUEUE→ 6 7 8

OUTPUT→ 1 2 3 4 5



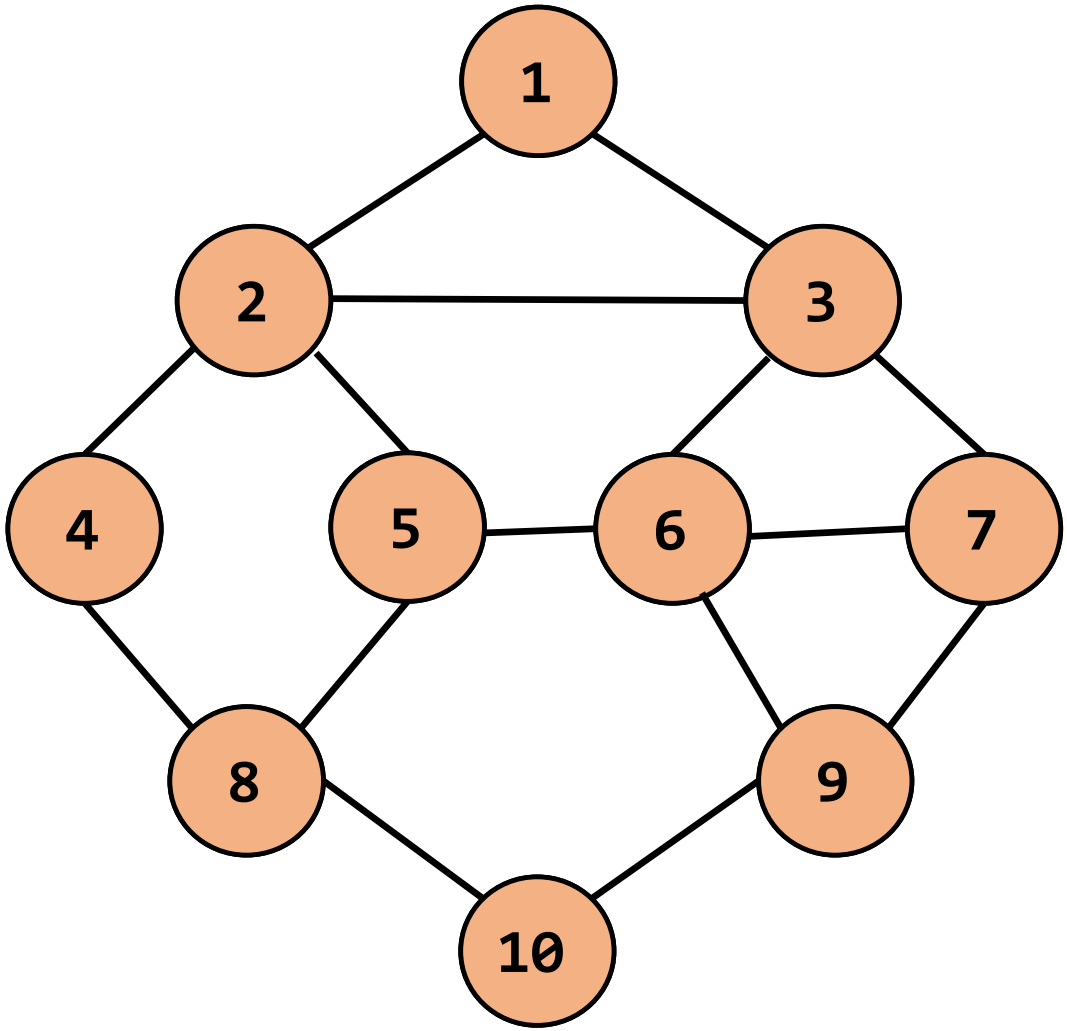
QUEUE→ 7 8 9

OUTPUT→ 1 2 3 4 5 6



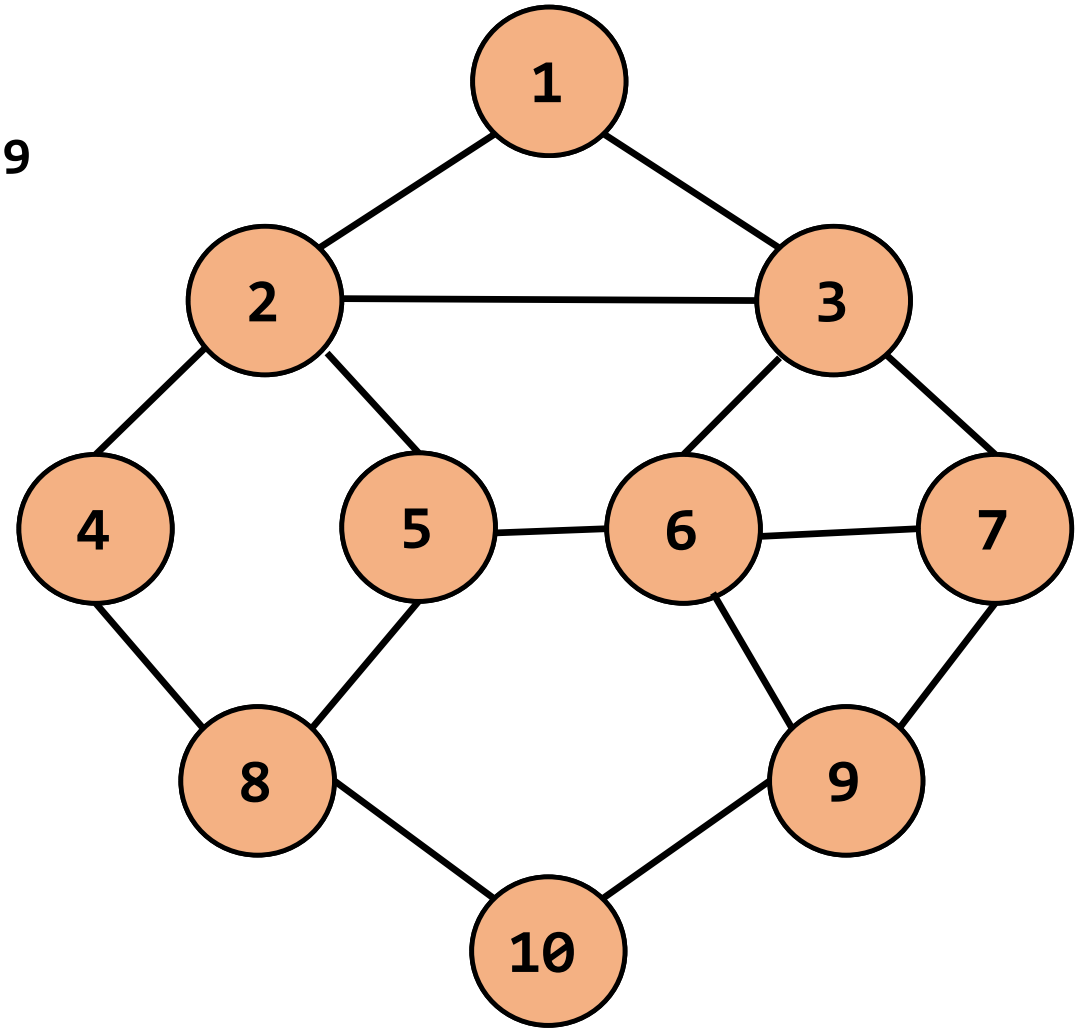
QUEUE→ 9 10

OUTPUT→ 1 2 3 4 5 6 7 8



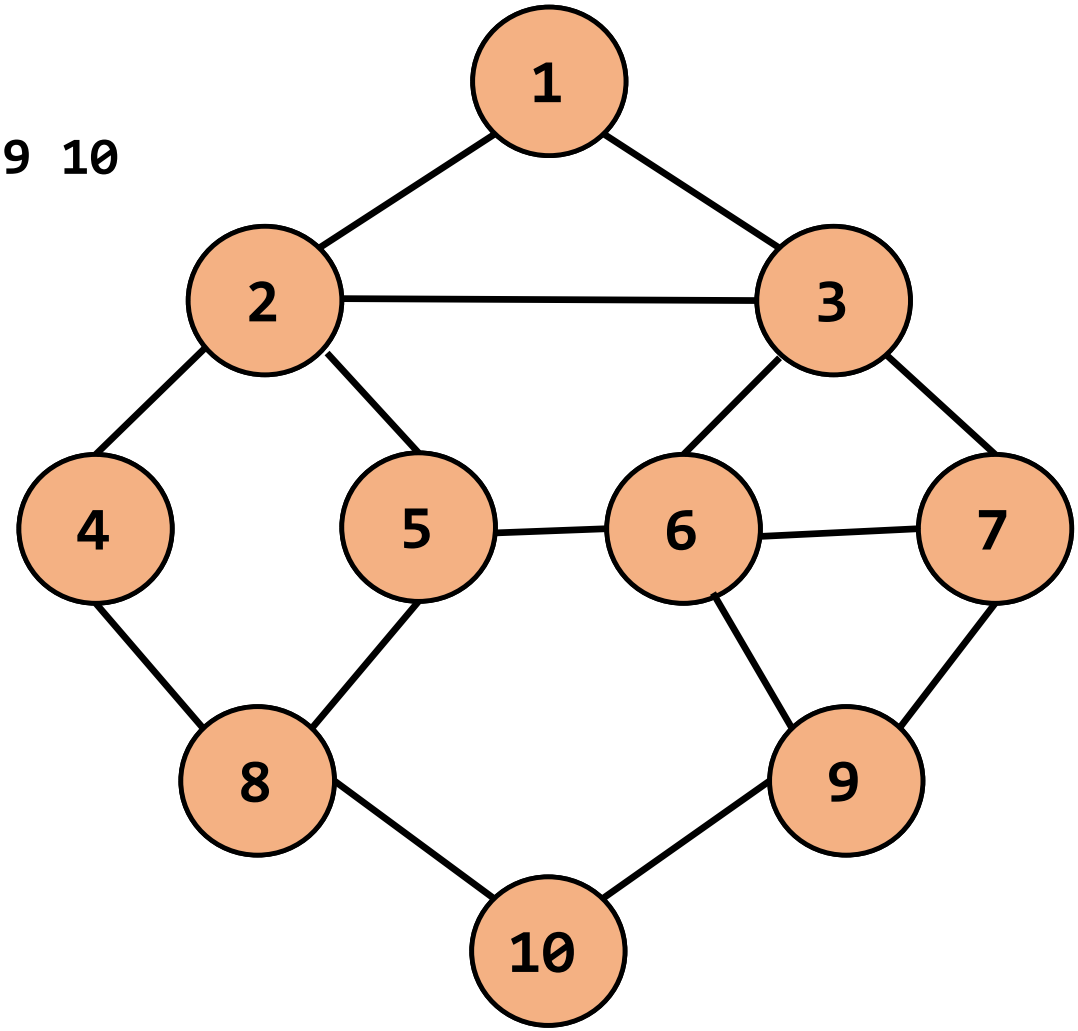
QUEUE→ 10

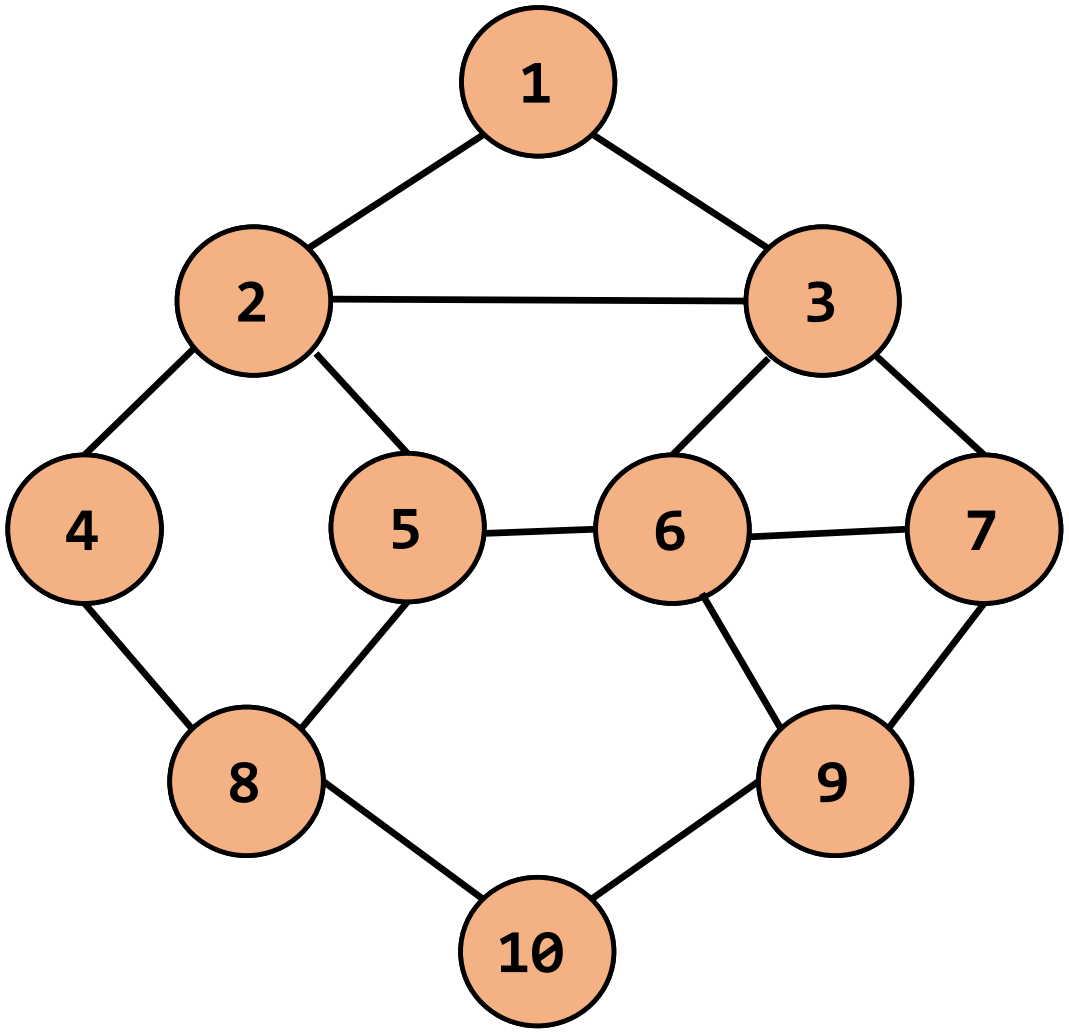
OUTPUT→ 1 2 3 4 5 6 7 8 9



QUEUE→ Empty

OUTPUT→ 1 2 3 4 5 6 7 8 9 10





All the nodes of our graph are visited and queue is also empty so BFS is done.

So our final Output of the BFS for this graph is→
1 2 3 4 5 6 7 8 9 10