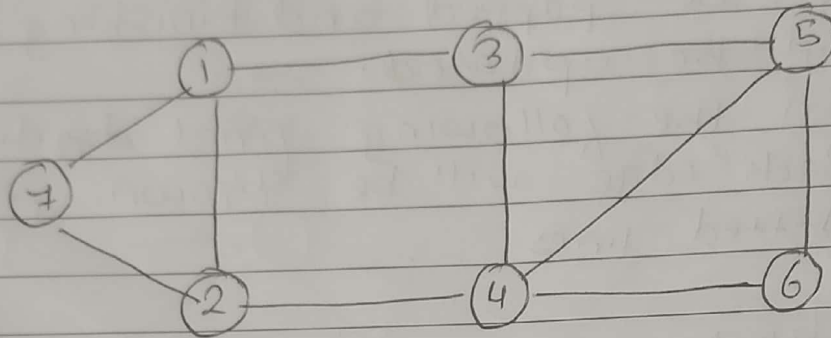


Find out wheather the following graph is bipartite or not? show your work.



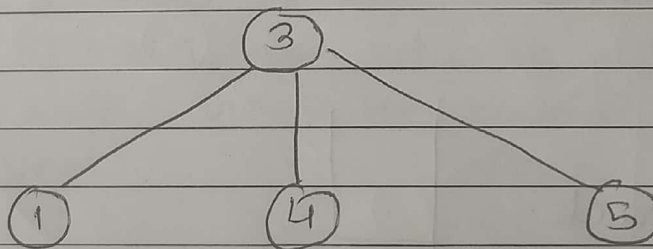
Let node 3 be the initial node for BFS algorithm.

When we traverse through the graph node ~~3~~ 3 becomes level 0.



level 0

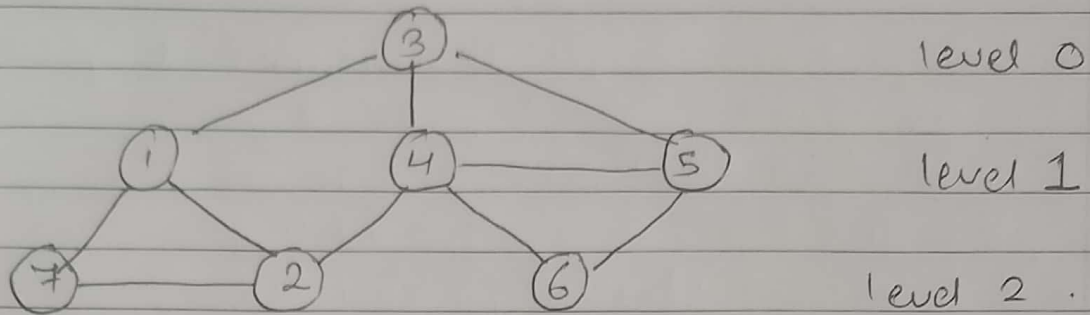
The next level nodes will consist of nodes that are directly connected to node 3



level 0

level 1

The next level of nodes will consist of nodes that have direct edge from nodes 1, 4 and 5



A graph is said to be a bipartite if there is no direct edge between 2 nodes of same level when traversed via BFS algorithm.

But there is an edge between node 4 & 5 and they are of level 1. And even in level 2. Therefore the following graph is not a bipartite graph.