Hongqi Guo

1. try to sort the graph topologically, and if it can not, then it has cycles. the time complexity is $O(V+E)$

2. assume two cases. first case if there are no loops. check if there are more red nodes than green nodes. and if not, return False.
   In second case, if there is a loop. check if there are more red nodes than green nodes. and if not. return False.

3. assume two cases. in the case of no loop. if both red and green nodes are greater than 4. we can ignore the loop and directly return True.
   if its loop. count the read and green nodes. and return True when both of them exceed 4.

4.