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/**
 * Definition for singly-linked list.
 * class ListNode {
 *     int val;
 *     ListNode next;
 *     ListNode(int x) {
 *         val = x;
 *         next = null;
 *     }
 * }
 */
public class Solution {
    public ListNode detectCycle(ListNode head) {
        if (head == null || head.next == null) return null;
        ListNode fast = head;
        ListNode slow = head;
        while (fast != null && fast.next != null) {
            fast = fast.next.next;
            slow = slow.next;
            if (fast == slow) break;
        }
        if (fast != null && fast.next != null) {
            fast = head;
            while (fast != slow) {
                fast = fast.next;
                slow = slow.next;
            }
            return fast;
        } else {
            return null;
        }
    }
}
```