1. **REMOVE A CYCLE FROM THE LINKED LIST**

**OR**

1. **IDENTIFY THE FIRST NODE ADDRESS IN A CYCLE IN LINKED LIST**

Given a linked list, return the node where the cycle begins. If there is no cycle, return null.

To represent a cycle in the given linked list, we use an integer pos which represents the position (0-indexed) in the linked list where tail connects to. If pos is -1, then there is no cycle in the linked list.

**Note:** Do not modify the linked list.

**Example 1:**

**Input:** head = [3,2,0,-4], pos = 1

**Output:** tail connects to node index 1

**Explanation:** There is a cycle in the linked list, where tail connects to the second node.



**Example 2:**

**Input:** head = [1,2], pos = 0

**Output:** tail connects to node index 0

**Explanation:** There is a cycle in the linked list, where tail connects to the first node.



**Example 3:**

**Input:** head = [1], pos = -1

**Output:** no cycle

**Explanation:** There is no cycle in the linked list.



**Follow-up**:  
Can you solve it without using extra space?