DAY 18

INTERVIEW BIT PROBLEMS :

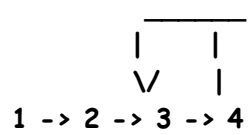
1. List Cycle

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

Try solving it using constant additional space.

Example :

Input :



Return the node corresponding to node 3.

CODE :

PYTHON

```
# Definition for singly-linked list.
# class ListNode:
#     def __init__(self, x):
#         self.val = x
#         self.next = None

class Solution:
    # @param A : head node of linked list
    # @return the first node in the cycle in the linked list
    def detectCycle(self, A):
        s_ptr=A
        f_ptr=A
        s_ptr=s_ptr.next
        f_ptr=f_ptr.next.next
        while(s_ptr and f_ptr and f_ptr.next):
            if s_ptr==f_ptr:
                break
            s_ptr=s_ptr.next
            f_ptr=f_ptr.next.next
        if s_ptr!=f_ptr:
            return None
        s_ptr=A
        while s_ptr!=f_ptr:
            s_ptr=s_ptr.next
            f_ptr=f_ptr.next
        return s_ptr
```