



# Cycle Detection

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A linked list is said to contain a *cycle* if any node is visited more than once while traversing the list.

Complete the function provided for you in your editor. It has one parameter: a pointer to a *Node* object named *head* that points to the head of a linked list. Your function must return a boolean denoting whether or not there is a cycle in the list. If there *is* a cycle, return *true*; otherwise, return *false*.

**Note:** If the list is empty, *head* will be *null*.

## Input Format

Our hidden code checker passes the appropriate argument to your function. You are not responsible for reading any input from stdin.

## Constraints

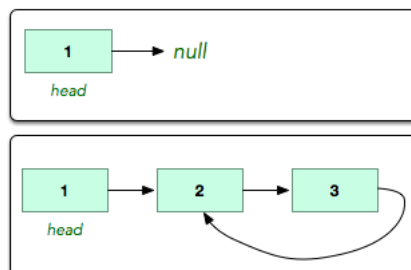
- $0 \leq \text{list size} \leq 100$

## Output Format

If the list contains a cycle, your function must return *true*. If the list *does not* contain a cycle, it must return *false*. The binary integer corresponding to the boolean value returned by your function is printed to stdout by our hidden code checker.

## Sample Input

The following linked lists are passed as arguments to your function:



## Sample Output

0  
1

## Explanation



- The first list has no cycle, so we return *false* and the hidden code checker prints **0** to stdout.
- The second list has a cycle, so we return *true* and the hidden code checker prints **1** to stdout.




Max Score:5

Difficulty: Medium

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Java 7   

```
1  ▾ /*
2  Detect a cycle in a linked list. Note that the head pointer may be 'null' if the list is empty.
3
4  A Node is defined as:
5      class Node {
6          int data;
7          Node next;
8      }
9  */
10
11 ▾ boolean hasCycle(Node head) {
12
13 }
14
```

Line: 1 Col: 1

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