# Question 1

Write a C function to count number of nodes in a given singly linked list.
For example, the function should return 5 for linked list 1->3->1->2->1.

# Question 2

Given a linked list and two keys in it, swap nodes for two given keys. Nodes should be swapped by changing links. It may be assumed that all keys in linked list are distinct.

Example :

Input: 10->15->12->13->20->14, x = 12, y = 20

Output: 10->15->20->13->12->14

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Output: 10->15->13->12->20->14

# Question 3

Write a SortedMerge() function that takes two lists, each of which is sorted in increasing order, and merges the two together into one list which is in increasing order. SortedMerge() should return the new list. The new list should be made by splicing together the nodes of the first two lists.
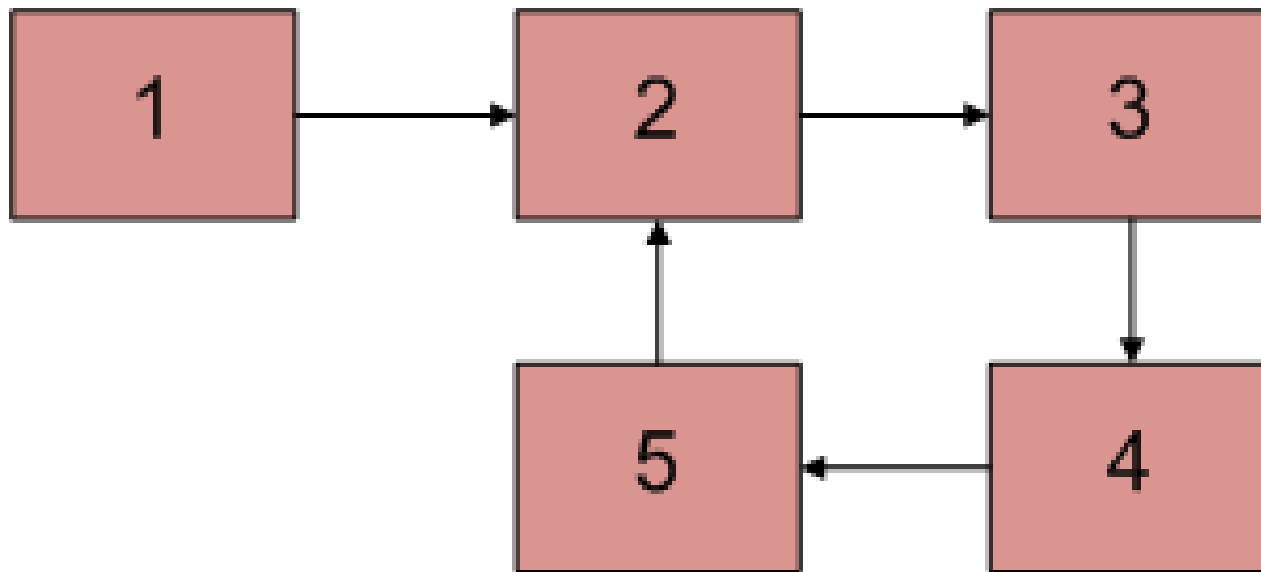
Example :

First linked list *a* is 5->10->15

Second linked list *b* is 2->3->20
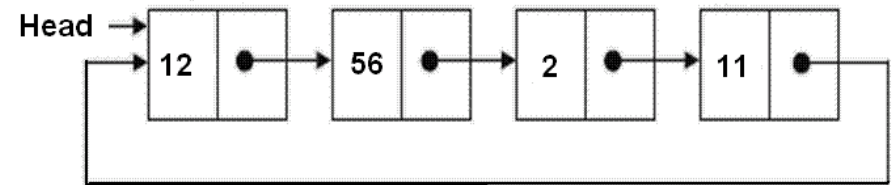
Output : 2->3->5->10->15->20.

# Question 4

Given a linked list, check if the the linked list has loop or not. Below diagram shows a linked list with a loop.
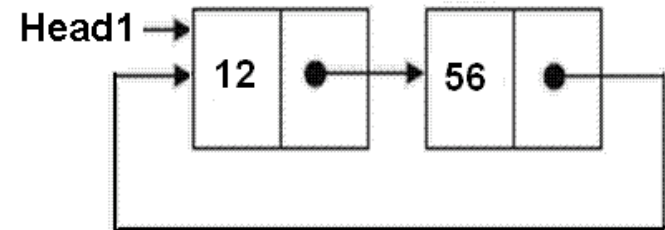
# Question 5

Write a program to split a Circular Linked List into two halves

Example : Original LinkedList

Result Linked List 1

Result Linked List 2