Recitation 11: Linked List Basics

Topic

- linked lists

Recitation Instructions

There are two programs given for this recitation. Both are required.
Complete Program ONE first, have your lab worker approve it for a grade and then, if Program ONE was approved, proceed to Program TWO.
Complete Program TWO, then have your lab worker approve it for a grade.

Again, both programs are required for this recitation.

Recitation Project(s)

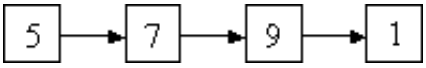
Program ONE

Create and test the function(s) needed for this problem.

Splice a singly linked list of `ints` into another list of `ints` given a pointer to the node that you will insert after.

E.g.:

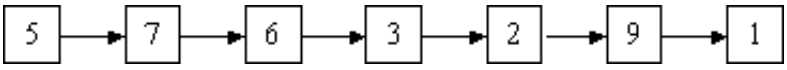
If the original list was

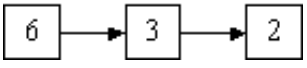


and the list to splice in was

and if the function is passed a pointer to node containing the 

in the original list, the resultant list would be



Note that the 

list was spliced into the original list after the node containing the 

.

Requirements:

- you must use this attached provided code to work from
- the splice-into function must be void

Assumptions:

- the function will not attempt to splice before the first node in the original list

Considerations:

- Do not use any other code from the course's sample code
- can we use the code that splices a list between two nodes to splice a list after the last node?

Testing:

- print both lists before the splice and print the original list after splicing.

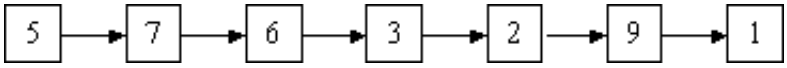
Program TWO

Create and test the function(s) needed for this problem.

Given two lists of `ints`, is the second list a sublist of the first?

E.g.:

Situation: Second list is a sublist of the first.

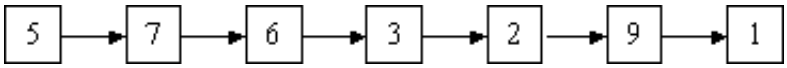
If the list to be searched is 

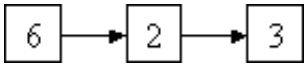
and the list to be looked for is 

the function should return a pointer to the node 

in the list to be searched.

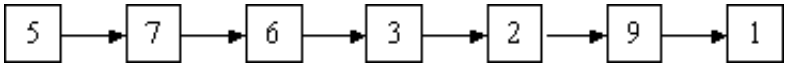
Situation: Second list is not a sublist of the first.

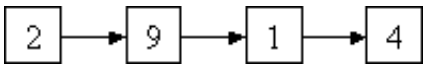
If the list to be searched is 

and the list to be looked for is 

the function should return `nullptr`.

Situation: Second list is not a sublist of the first.

If the list to be searched is 

and the list to be looked for is 

the function should return `nullptr`.

Requirements:

- the isSubList function must return a pointer to the node where the sublist starts in the searched list or `nullptr` if not found

Considerations:

- what if there is more than one match of the sublist

Testing:

- print the lists
- print the list returned by the isSubList function

See the Sample Output