

Problem Domain

- Append an item at the end of linked list.
- Insert an item before a given value.
- Insert an item after a given value.

Algorithm

a. Set current = head

Traverse to end of linked list

and append item

b. Set current = head

a. Input: $[1, 2, 3, 4], 5$

Output:

b. Input: $[1, 2, 3, 4], 4, 7$

Output:

c. Input: $[1, 2, 3, 4], 1, 8$

Output: $[1, 8, 2, 3, 4]$

Traverse linked list until

current.next = given value

If found set current.next = node with given value

else

current = current.next

c. Set current = head

Traverse linked list until

current.next = given value

If found set current.next = node with given value

Edge Cases
- value to compare does not exist

Big O time $O(n)$, space $O(1)$

a. time $O(n)$, space $O(1)$

b. time $O(n)$, space $O(1)$

c.