

# Problem 4: Linked List Recursion Tracing

1) in1 = 1, 2, 3, 4    in2 = 5, 6

|| rec(Node\* in1, Node\* in2)

in1.val = 1  
in1->next = || rec((5,6), (2,3,4)) => 1  
return in1

in1.val = 5  
in1->next = || rec((2,3,4), (6)) => 5  
return in1

in1.val = 2  
in1->next = || rec((6), (3,4)) => 2  
return in1

in1.val = 6  
in1->next = || rec((3,4), (null ptr)) => 6  
return in1

in2 == null ptr  
return in1

returned = 3, 6, 2, 5, 1

head recursion



b)  $in1 = nullptr$      $in2 = 2$

$\boxed{\text{rec(Node* in1, Node* in2)}$   
 $\text{return in1;}$

$= 1$

read recursion

$\boxed{in1 = nullptr}$   
 $\text{return in2}$

$\Rightarrow 2$

$\boxed{\text{returned linked list} = 2, 1}$