

Question a: Assuming the initial inputs are the head nodes of the two Linked Lists

call 1 (initial):

$in1 = p1$
 $in2 = p5$

$in1 \rightarrow next = \downarrow$

call 2:

$in1 = p5$
 $in2 = p2$

$in1 \rightarrow next = \downarrow$

call 3:

$in1 = p2$
 $in2 = p6$

$in1 \rightarrow next = \downarrow$

call 4:

$in1 = p6$
 $in2 = p3$

$in1 \rightarrow next = \downarrow$

call 5:

$in1 = p3$
 $in2 = nullptr$

return $in1$

$in1 \rightarrow next = p3$
 return $in1$

$in1 \rightarrow next = p6 \rightarrow p3$

return $in1$

$in1 \rightarrow next = p2 \rightarrow p6 \rightarrow p3$

return $in1$

$in1 \rightarrow next = p5 \rightarrow p2 \rightarrow p6 \rightarrow p3$

return $in1$: $p1 \rightarrow p5 \rightarrow p2 \rightarrow p6 \rightarrow p3 \rightarrow p4$

llrec returns $\rightarrow "p1 \rightarrow p5 \rightarrow p2 \rightarrow p6 \rightarrow p3 \rightarrow p4"$

This linked list where $p\#$ is a node with the number as its value & which points to node after it in the sequence.

Question b:

call 1 (initial): $in2$ is returned because $in1$ is a $nullptr$