

Problem 4

node # = node w value #

Question a:

base case is when either node value is null.

$ilrec(1 \rightarrow 2 \rightarrow 3 \rightarrow 4, 5 \rightarrow 6) \rightarrow stack: return (node 1)$

$node 1 \rightarrow next = ilrec(5 \rightarrow 6, 2 \rightarrow 3 \rightarrow 4)$ stack return (node 5)

$node 5 \rightarrow next = ilrec(2 \rightarrow 3 \rightarrow 4, 6)$ stack return (node 2)

$node 2 \rightarrow next = ilrec(6, 3 \rightarrow 4)$ stack return (node 6)

$node 6 \rightarrow next = ilrec(3 \rightarrow 4, nullptr)$

return $3 \rightarrow 4$

$3 \rightarrow 4 \rightarrow 6 \rightarrow 2 \rightarrow 5 \rightarrow 1$

link list returned = 3, 4, 6, 2, 5, 1

Question b:

$ilrec(nullptr, 2)$

$\# in == nullptr$

return $in2$

link list returned = $in2 = 2$