HW1 Q4

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```
struct Node {
    int val;
    Node*  next;
};

Node* llrec(Node* in1, Node* in2)
{
    if(in1 == nullptr) {
        return in2;
    }
    else if(in2 == nullptr) {
        return in1;
    }
    else {
        in1->next = llrec(in2, in1->next);
        return in1;
    }
}
```

a) llrec(in1, in2)

in1->next = llrec(in2, in1->next)
return in1 (p1) linked to p5

in2->next = llrec(in1->next, in2->next)
return in2 (p5) linked to p2

in1->next->next = llrec(in2->next, in1->next->next)
return in1->next (p2) linked to p6

* in2->next->next = llrec(in1->next->next, in2->next->next)
return in2->next (p6) linked to p3

in2->next->next == nullptr

p1: in1 = 1

p2: in1->next = 2

p3: in1->next->next = 3

p4: in1->next->next->next = 4

p5: in2 = 5

p6: in2->next = 6

null

so return p3: in1->next->next -> linked to p4

Backtrace of calls now → pink steps above mean hit

in2->next->next = p3 ie -> next of null

in1->next->next = p6

in2->next = p2

in1->next = p5

returned linked list: p1 -> p5 -> p2 -> p6 -> p3 -> p4

1 -> 5 -> 2 -> 6 -> 3 -> 4

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b) llrec(in1, in2)

in1 = nullptr

in2 = 2