```
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;
    }
}
```

Question a): what linked list is returned if llrec is called with the input linked lists in1 = 1, 2, 3, 4 and in2 = 5, 6 ?

① in1 (1) != Nullptr,
in2 (5) != Nullptr,
in1 → next = llrec (in2, in1 → next)
} return in1 (1)

② in1 (5) != Nullptr,
in2 (2) != Nullptr,
in1 → next = llrec (in2, in1 → next)
} return in1 (5)

③ in1 (2) != Nullptr,
in2 (6) != Nullptr,
in1 → next = llrec (in2, in1 → next)
} return in1 (2)

④ in1 (6) != Nullptr,
in2 (3) != Nullptr,
in1 → next = llrec (in2, in1 → next)
} return in1 (6)

After this, in1 will be 3, 4; and in2 is going to be an empty list, therefore (in2 == Nullptr) is true

Therefore, the final output is 1, 5, 2, 6, 3, 4.

Question (b). What linked list is return if llrec is called with the input linked lists in1 = nullptr, and in2 = 2 ?

If in1 = Nullptr and in2 = 2, in2 will be returned, and it gives us the final output 2.