Lab 1 - Simply Linked Lists

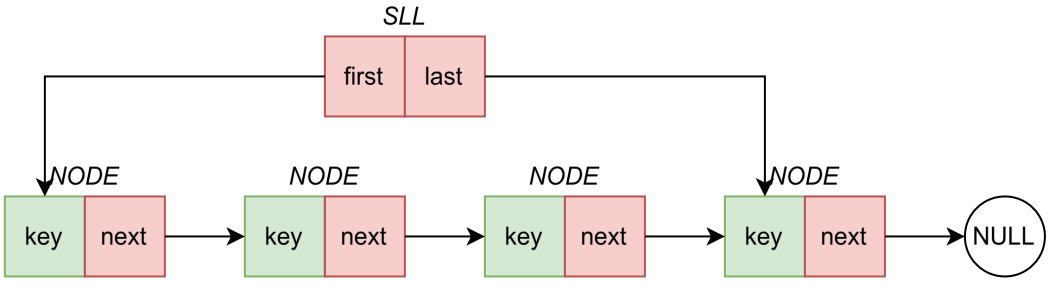
Implement a simply linked list using a structure similar to the following example:

```
typedef struct _NODE{
    int key;
    struct _NODE* next;
} NODE;

typedef struct {
    NODE* first;
    // pointer to last node is optional
    NODE* last;
} SLL;
```

Implement a function for each of the following operations:

1. List initialisation (allocate memory for the list) ★
2. Insert first ★
3. Delete first ★
4. Insert last ★
5. Delete last ★
6. Get the number of elements in the list ★
7. List deinitialisation (free the memory allocated for the nodes and the list) ★
8. Search element by key. If the element is found return a pointer to the node, otherwise return 0. ★★
9. Delete element by key. If an element with the given key is found in the list delete it. ★★
10. Delete node at arbitrary index. (E.g.: remove the 5th node) ★★
11. Concatenate 2 lists ★★
12. Insert node based on an ordering rule (E.g.: node with key 3 will be placed after nodes 1, 2 and before nodes 4, 5) ★★
13. Reverse list ★★★
14. Merge 2 ordered lists into a single ordered list ★★★
15. Reverse the list without allocating any additional memory. ★★★★



Note: Leave a comment with the text PB1, PB2, ... PB10 above every function that implements the respective lab task. (upper case text, no space between the text and the problem number)