Programming 1 – Exercise Set 7

Define a structure for an element of a singly linked list of integers and another structure representing the list, that contains addresses of the first (head) and current element. Define functions performing following operations:

1. Create a new list element with a specified value (without inserting it into the list).
2. Print a single element of the list.
3. Insert a list element at the beginning of the list.
4. Destroy the list (remove all elements).
5. Print all elements of the list after the current one.
6. Print all elements of the list.
7. Insert a list element at the end of the list.
8. Remove the first element of the list.
9. Remove the last element of the list.
10. Find first element of the list with a given value.
11. Find an element of the list with given index.
12. Insert a list element into the list after the current.
13. Insert a list element into the list before the current.
14. Remove list element after the current.
15. Remove the current element of the list.
16. Remove first element with a given value.
17. Remove all elements with a given value.
18. Split the list after current – all elements after the current are moved to a new list returned by the function.
19. Split the list at current – current element an all the following are moved to a new list returned by the function.
20. Concatenate two lists (afterwards second list is empty).