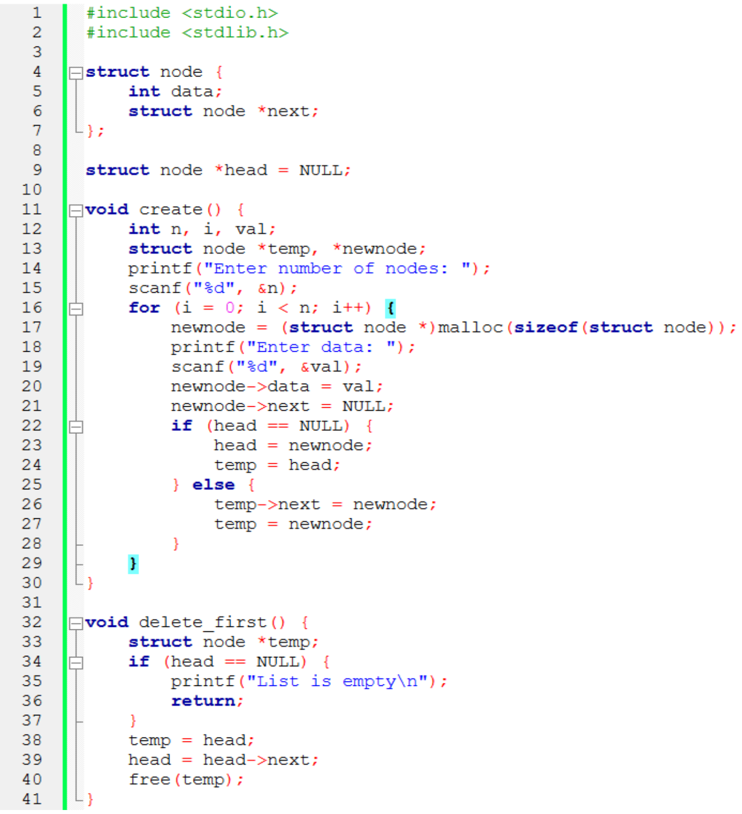
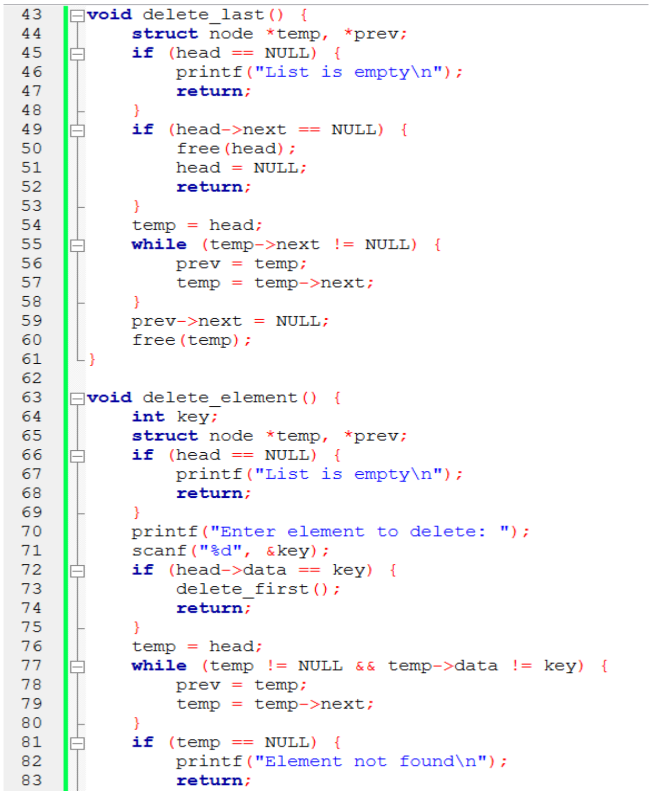
LAB-5 (Singly Linked List-DELETE)

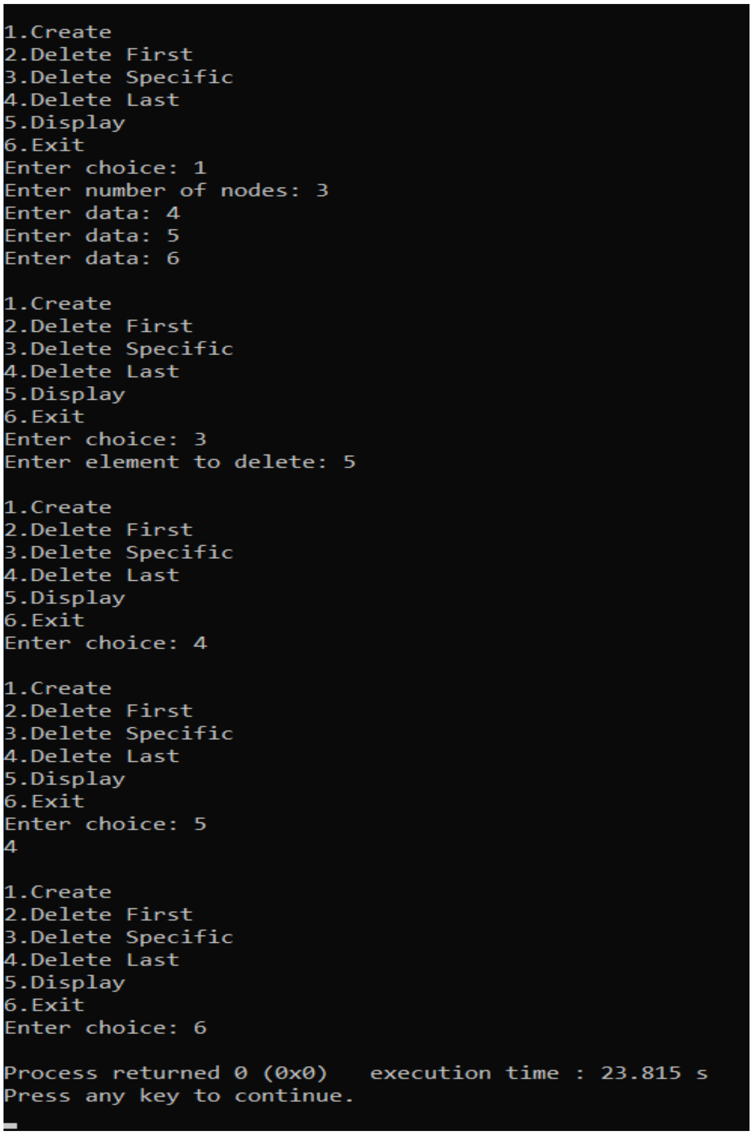


```c
#include <stdio.h>
#include <stdlib.h>

struct node {
    int data;
    struct node *next;
};

struct node *head = NULL;

void create() {
    int n, i, val;
    struct node *temp, *newnode;
    printf("Enter number of nodes: ");
    scanf("%d", &n);
    for (i = 0; i < n; i++) {
        newnode = (struct node *)malloc(sizeof(struct node));
        printf("Enter data: ");
        scanf("%d", &val);
        newnode->data = val;
        newnode->next = NULL;
        if (head == NULL) {
            head = newnode;
            temp = head;
        } else {
            temp->next = newnode;
            temp = newnode;
        }
    }
}

void delete_first() {
    struct node *temp;
    if (head == NULL) {
        printf("List is empty\n");
        return;
    }
    temp = head;
    head = head->next;
    free(temp);
}
```



```c
void delete_last() {
    struct node *temp, *prev;
    if (head == NULL) {
        printf("List is empty\n");
        return;
    }
    if (head->next == NULL) {
        free(head);
        head = NULL;
        return;
    }
    temp = head;
    while (temp->next != NULL) {
        prev = temp;
        temp = temp->next;
    }
    prev->next = NULL;
    free(temp);
}

void delete_element() {
    int key;
    struct node *temp, *prev;
    if (head == NULL) {
        printf("List is empty\n");
        return;
    }
    printf("Enter element to delete: ");
    scanf("%d", &key);
    if (head->data == key) {
        delete_first();
        return;
    }
    temp = head;
    while (temp != NULL && temp->data != key) {
        prev = temp;
        temp = temp->next;
    }
    if (temp == NULL) {
        printf("Element not found\n");
        return;
```

OUTPUT:



```
1.Create
2.Delete First
3.Delete Specific
4.Delete Last
5.Display
6.Exit
Enter choice: 1
Enter number of nodes: 3
Enter data: 4
Enter data: 5
Enter data: 6

1.Create
2.Delete First
3.Delete Specific
4.Delete Last
5.Display
6.Exit
Enter choice: 3
Enter element to delete: 5

1.Create
2.Delete First
3.Delete Specific
4.Delete Last
5.Display
6.Exit
Enter choice: 4

1.Create
2.Delete First
3.Delete Specific
4.Delete Last
5.Display
6.Exit
Enter choice: 5
4

1.Create
2.Delete First
3.Delete Specific
4.Delete Last
5.Display
6.Exit
Enter choice: 6

Process returned 0 (0x0)   execution time : 23.815 s
Press any key to continue.
```