

6) WAP to implement singly linked list with following operations.

- Create a linked list.
- Deletion of first element, specified element and last element in the list.
- Display the contents of the linked list.

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

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

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

```
struct node *head = NULL;
```

```
void create() {
```

```
    struct node *newnode;  
    struct node *temp;  
    int item;
```

```
    newnode = (struct node *) malloc (sizeof  
        (struct node));
```

```
    printf ("Enter the data\n");
```

```
    scanf ("%d", &item);
```

```
    newnode->data = item;
```

```
    newnode->next = NULL;
```

```
    if (head == NULL) {
```

```
        head = newnode;
```

```
    }
```

```
else {  
    temp = head;  
  
    while (temp->next != NULL) {  
        temp = temp->next;  
    }  
  
    temp->next = newnode;  
}  
}  
  
void delete (int element) {  
  
    struct node *temp, *del = NULL;  
  
    temp = head;  
  
    if (head = NULL) {  
        printf ("Cannot delete. The list is  
        empty\n");  
    }  
  
    if (head->data == element) {  
        head = head->next;  
        return;  
    }  
  
    while (temp->next != NULL) {  
        if (temp->next->data == element) {  
            del = temp->next;  
  
            if (del->next = NULL) {  
                temp->next = NULL;  
            }  
        }  
    }  
}
```



```
else {  
    temp->next = del->next;  
}  
}  
else {  
    temp = temp->next;  
}  
}
```

```
if (del == NULL) {  
    printf("Element was not found. Please  
        enter a valid element\n");  
}  
}
```

```
void delFirst() {  
    head = head->next;  
    return;  
}
```

```
void delLast() {  
    struct node *temp, *del = NULL;
```

```
    temp = head;  
    while (temp->next != NULL) {  
        del = temp->next;
```

```
    while (del->next == NULL) {  
        temp->next = NULL;  
        return;  
    }
```

```
    temp = temp->next;  
}
```

```
void display() {
```

```
    struct node *p;
```

```
    p = head;
```

```
    if (p == NULL) {
```

```
        printf("There's no element/node  
in the list.\n");
```

```
    }
```

```
    else {
```

```
        while (p != NULL) {
```

```
            printf("%d\t", p->data);
```

```
            p = p->next;
```

```
        }
```

```
    }
```