

/*Write separate user defined functions for the following Delete operations in a double linked list (i) Delete from End (ii) Delete after a specific value (iii) Delete before a specific value (iv) Delete a specific value */

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

```
struct node
{
    int data;
    struct node *next, *prev;
} * start, *newnode, *current;
```

```
void deleteend();
void deleteafterspecific();
void deletebeforespecific();
void deletespecific();
```

```
main()
{
    int x, ch;
    printf("Enter the data of the 1st node");
    scanf("%d", &x);
    newnode = (struct node *)malloc(sizeof(struct node));
    newnode->data = x;
    newnode->prev = NULL;
    newnode->next = NULL;
    start = newnode;
    current = newnode;
}
```

```
void deleteend()
{
    struct node *p;
    p = current;
    current = current->prev;
    free(p);
    current->next = NULL;
}
```

```
void deleteafterspecific()
{
    struct node *p, *q, *r;
    p = start;
    int ele;
    printf("Enter the specific element");
    scanf("%d", &ele);
    while(p->data!=ele)
    {
        p=p->next;
    }
    q=p->next;
    r=q->next;
```

```
    p->next=r;
    r->prev=p;
    free(q);
}
```

```
void deletebeforespecific()
{
    struct node *p,*q,*r;
    p=start;
    int ele;
    printf("Enter the specific element");
    scanf("%d", &ele);
    while(p->data!=ele)
    {
        p=p->next;
    }
    q=p->prev;
    r=q->prev;
    r->next=p;
    p->prev=r;
    free(q);
}
```

```
void deletespecific()
{
    int ele;
    printf("Enter the element to be deleted");
    scanf("%d",&ele);
    struct node *p,*q,*r;
    p=start;
    while(p->data!=ele)
    {
        p=p->next;
    }
    q=p->next;
    r=p->prev;
    r->next=q;
    q->prev=r;
    free(p);
}
```