

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void delete_first();
void insert_end();
void display();
struct node {
int data;
struct node *next;
}*start=NULL;

void main() {

int ch; clrscr();
while(1)
{
printf("\n ***CIRCULAR LINKLIST MENU***");
printf("\n\n1.insert_end\n2. delete first \n 3.Display\n 4.exit");
printf("\n\n enter your choice ");
```

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

```
    switch(ch)
    {
    case 1:insert_end();
    break;
    case 2:delete_first();
    break;
    case 3:display();
    break;
    case 4: exit(0);
    break;
    default:printf("\nwrong coice!");
    break;
    } }
    getch();}
```

```
void insert_end() {
```

```
int val;
```

```
struct node *new_node,*ptr;
```

```
new_node=(struct node*)(malloc(sizeof(struct node)));
printf("Enter an element:");
scanf("%d",&val);
new_node->data=val;
if(start==NULL)    //If list is empty
{
    start=new_node;
}
else
{
    ptr=start;
    while(ptr->next!=start)
    {
        ptr=ptr->next;
    }
    ptr->next=new_node;

}
new_node->next=start;
}
```

```
void display()
{
    struct node *ptr;
    ptr=start;
    while(ptr->next!=start)
    {
        printf("\nelement is %d",ptr->data);
        ptr=ptr->next;
    }
    printf("\nelement is %d",ptr->data);
}
```

```
void delete_first()
{
    struct node *prev=start,*first=start;
    if(start == NULL)
    {
        printf("list empty");
    }
    else if(prev->next == prev)
```

```
{  
start=NULL;  
}  
else{  
while(prev->next != start)  
{  
prev=prev->next;  
}  
prev->next = first->next;  
start=prev->next;  
free(first);  
}  
}
```