# DSA – LAB\_Assignment-12( CIRCULAR QUEUE using Linked List)

Name : SHUBHRADEEP MAITY

University Roll: 10900120014

Batch : CSE Sec : A

Class Roll : 14

Question:

Write a C program (menu driven) to implement the following operations on a circular queue.   
(Represent the QUEUE using Linked List).  
1. Insert  
2. Delete  
3. Display  
4. Exit

CODE ::

#include<stdio.h>

#include<stdlib.h>

struct node

{

int data;

struct node\* next;

};

struct node \*f = NULL;

struct node \*r = NULL;

void enqueue(int d) //Insert elements in Queue

{

struct node\* n;

n = (struct node\*)malloc(sizeof(struct node));

n->data = d;

n->next = NULL;

if((r==NULL)&&(f==NULL))

{

f = r = n;

r->next = f;

}

else

{

r->next = n;

r = n;

n->next = f;

}

}

void dequeue() // Delete an element from Queue

{

struct node\* t;

t = f;

if((f==NULL)&&(r==NULL))

printf("\nQueue is Empty");

else if(f == r){

f = r = NULL;

free(t);

}

else{

f = f->next;

r->next = f;

free(t);

}

}

void print(){ // Print the elements of Queue

struct node\* t;

t = f;

if((f==NULL)&&(r==NULL))

printf("\nQueue is Empty");

else{

printf("The Elements are: \n");

do{

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

t = t->next;

}while(t != f);

}

}

int main()

{

int opt,n,i,data;

do{

printf("\n\n1 for Insert the Data in Queue\n2 for show the Data in Queue \n3 for Delete the data from the Queue\n0 for Exit \n");

printf("Enter Your Choice:-");

scanf("%d",&opt);

switch(opt){

case 1:

printf("\nEnter the number of data :");

scanf("%d",&n);

printf("\nEnter your data :");

i=0;

while(i<n){

scanf("%d",&data);

enqueue(data);

i++;

}

break;

case 2:

print();

break;

case 3:

dequeue();

break;

case 0:

break;

default:

printf("\nIncorrect Choice!!!");

}

}while(opt!=0);

return 0;

}

OUTPUT ::



