**/\*7. Write a program to simulate the working of circular queue of integer using on array\*/**

#include<stdio.h>

#include<stdlib.h>

#include<conio.h>

void cqinsert(int[],int,int,int\*,int\*);

int cqdelete(int[],int,int\*,int\*);

void cqdisplay(int[],int,int,int);

void main()

{

int\*q,item,size,opt=0,f=0,r=-1,count=0,i;

clrscr();

printf("\n enter size of queue\n");

scanf("%d",&size);

q=(int\*)malloc(size\*sizeof(int));

while(opt<4)

{

clrscr();

printf("\n queue menu\n");

printf("1.insert\n");

printf("2.delete\n");

printf("3.display\n");

printf("4.exit\n");

printf("enter the option\n");

scanf("%d",&opt);

switch(opt)

{

case 1:printf("\n enter item to insert");

scanf("%d",&item);

cqinsert(q,item,size,&r,&count);

break;

case 2:item=cqdelete(q,size,&count,&f);

if(item!=NULL)

printf("\n deleted element is%d",item);

getch();

break;

case 3:printf("\n content of queue\n");

cqdisplay(q,size,f,count);

getch();

}

}

}

void cqinsert(int cq[],int item,int size,int\*r,int\*count)

{

if(\*count==size)

{

printf("\n queue full\n");

getch();

}

else

{

\*r=(\*r+1)%size;

cq[\*r]=item;

\*count=\*count+1;

}

}

int cqdelete(int cq[],int size,int\*count,int\*f)

{

int item;

if(\*count==0)

{

printf("\n empty queue\n");

getch();

return('\0');

}

item=cq[\*f];

\*f=(\*f+1)%size;

\*count=\*count-1;

return(item);

}

void cqdisplay(int cq[],int size,int f,int count)

{

int i,j;

if(count==0)

printf("\n empty queue\n");

else

{

j=f;

for(i=1;i<=count;i++)

{

printf("%d\t",cq[j]);

j=(j+1)%size;

}

printf("\n");

}

getch();

}