/\* Wap in C++ to implement **queue as an array** \*/

#include<iostream.h>

#include<conio.h>

#include<process.h>

const int size=50;

int q[size],rear=-1,front=-1;

int insert(int q[],int ele)

{

if(rear==size-1)

return(-1);

else if(rear==-1)

{

front=rear=0;

q[rear]=ele;

}

else

{

rear++;

q[rear]=ele;

}

return(0);

}

int delet(int q[])

{

int r ;

if(front==-1)

return(-1);

else

{

r=q[front];

if(rear==front)

front=rear=-1;

else

front++;

}

return r;

}

void display(int q[],int front,int rear)

{

if(front==-1)

return;

else

{

for(int i=front;i<=rear;i++)

cout<<q[i]<<" ";

}

}

void main()

{

clrscr();

int n,u,k,m;

char ch,ans;

do

{

cout<<"\nChoose from the menu :\n"

<<"\n 1. Insert"

<<"\n 2. Delete"

<<"\n 3. Display"

<<"\n\n Enter your choice : "; cin>>n;

switch(n)

{

case 1: ans='y';

while(ans=='y'||ans=='Y')

{

cout<<"\n Enter element to be inserted :"; cin>>m;

k=insert(q,m);

if(k==-1)

cout<<"\n Overflow !!!!";

cout<<"\n The resultant Queue is : ";

display(q,front,rear);

cout<<"\n\n Want to enter again ?: ";

cin>>ans;

}

break;

case 2: ans='y';

while(ans=='y'||ans=='Y')

{

u=delet(q);

if(u==-1)

{

cout<<"\n Underflow !!!!";

break;

}

else

{

cout<<"\n The deleted element is "<<u<<"\n";

cout<<"\n The resultant Queue is : \n\n";

display(q,front,rear);

}

cout<<"\n\n Want to delete again ?: ";

cin>>ans;

}

break;

case 3: cout<<"\n The Queue is : \n\n";

display(q,front,rear);

break;

default: cout<<"\n Please enter desired keyword : ";

}

cout<<"\n Choose from the menu again ? : ";cin>>ch;

}while(ch=='y'||ch=='Y');

getch();

}

Output:

Choose from the menu :

1. Insert

2. Delete

3. Display

Enter your choice : 1

Enter element to be inserted :1

The resultant Queue is :

1-->

Want to enter again ?: y

Enter element to be inserted :2

The resultant Queue is :

1-->2-->

Want to enter again ?: y

Enter element to be inserted :3

The resultant Queue is :

1-->2-->3-->

Want to enter again ?: n

Choose from the menu again ? : y

Choose from the menu :

1. Insert

2. Delete

3. Display

Enter your choice : 2

The deleted element is 1

The resultant Queue is :

2-->3-->

Want to delete again ?: y

The deleted element is 2

The resultant Queue is :

3-->

Want to delete again ?: n

Choose from the menu again ? : y

Choose from the menu :

1. Insert

2. Delete

3. Display

Enter your choice : 3

The Queue is :

3-->

Choose from the menu again ? :N