/\*\*\*\*\*\*\*\* Circular queue \*\*\*\*\*\*\*\*\*\*\*/

#include<iostream>

using namespace std;

class CQueue

{

int queue[5],front,rear,n;

public:

CQueue()

{

n=5;

front=-1;

rear=-1;

}

void enqueue(int data);

int dequeue();

void display();

};

void CQueue::enqueue(int data)

{

if(front==-1 && rear==-1)

{

front=rear=0;

queue[rear]=data;

}

else if(((rear+1)%n)==front)

{

cout<<"queue is full";

}

else

{

rear=(rear+1)%n;

queue[rear]=data;

}

}

int CQueue::dequeue()

{

int data;

if(front==-1)

{

cout<<"Underflow";

} else if(front==rear)

{

data=queue[front];

front=rear=-1;

}

else

{

data=queue[front];

front=(front+1)%n;

}

return data;

}

void CQueue::display()

{

int i=front;

if(front==-1 && rear==-1)

{

cout<<"\n queue is empty";

}

else

{

while(i!=rear)

{

cout<<queue[i]<<" ";

i=(i+1)%n;

}

cout<<queue[rear];

}

}

int main()

{

int ch,data;

CQueue q=CQueue();

do

{

cout<<"\n 1. Enqueue(insertion)";

cout<<"\n 2. Dequue(deletion";

cout<<"\n 3. Display";

cout<<"\n 4. Exit";

cout<<"\n enter your choice: ";

cin>>ch;

switch(ch)

{

case 1:

cout<<"\n enter data: ";

cin>>data;

q.enqueue(data);

break;

case 2:

data=q.dequeue();

cout<<"\n deleted data is: "<<data;

break;

case 3:

q.display();

break;

}

}while(ch!=4);

return 0;

}