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*
Name:-Taware Ruturaj
Roll no.:-2221034
class:- SE comp
Subject:- FDS
Assignment no.11
Aim:-Implementation of Circular Queue.
*/
#include<iostream>
using namespace std;
class Queue
{ int q[5],f,r;
 public :
Queue()
{
f=-1,r=-1;
} int isfull();
void enqueue();
int isempty();
void display();
void dequeue();

};


int Queue::isfull()
{
if((f==0 && r==4)||f==r+1)
{

return 1;
}
else
{
return 0;
}
}
void Queue::enqueue()
{ int x;
cout<<"enter value which you want to insert :- ";
 cin>>x;
 if(r==-1 && f==-1)
{
f=(f+1)%5,r=(r+1)%5;
 q[r]=x;
}
```

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else
{
r=(r+1)%5;
 q[r]=x;
}
}
int Queue::isempty()
{
if(r==-1 && f==-1)
{
return 1;
}
else
{
return 0;

}
}


void Queue::display()
{
cout<<"Queue is:-"<<endl;
int i;
for(i=f; i!=r; i=(i+1)%5)
{
cout<<q[i]<<endl;
}
cout<<q[i]<<endl;
}
void Queue::dequeue()
{
cout<<"deleted element = "<<q[f]<<endl;
if(f==r)
{
f=-1,r=-1;
}
else
{ f=(f+1)%5;
}
}


int main()
{
Queue ob;
```

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int ch; while(1)
{
cout<<"1 enqueue"<<endl;
 cout<<"2 Display"<<endl;
cout<<"3 dequeue"<<endl;
 cout<<"enter your choice:-";
 cin>>ch;
 switch(ch)
{ case 1 : if(ob.isfull())
{
cout<<"Queue is full"<<endl;
}
else
{
ob.enqueue();
}
break; case 2 : if(ob.isempty())
{
cout<<"Queue is empty"<<endl;
}
else
{
ob.display();
}
break;


case 3 : if(ob.isempty())
{

cout<<"Queue is empty"<<endl;
}
else
{
ob.dequeue();
}
break;
}
}
return 0;
}
```