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/*
Pizza parlor accepting maximum M orders.
Orders are served in first come first served basis. Order once placed can not be cancelled.
Write C++ program to simulate the system using circular queue using array.
*/

#include<iostream>
#include<cstdlib>
using namespace std;
class pizza
{
 int front,rear,q[5];
 public:
 pizza()
 {
 front=-1;
 rear=-1;
 }
 int isfull()
 {

if((front==0&&rear==4)||front==rear+1)
 {
 return 1;
 }
else
{
 return 0;
 }
 }
 int isempty()
 {
 if(front==-1&&rear==-1)
 {
 return 1;
 }
 else
{
 return 0;
 }
 }
 void add()
 {
 if(isfull()==0)
 {
 cout<<"\n Enter the Pizza ID: ";
 if(front==-1&&rear==-1)
 {
```

```
front=0;
rear=0;
cin>>q[rear];
}
else
{
rear=(rear+1)%5;
cin>>q[rear];
}
char c;
cout<<" Do you want to add another order ? ";
cin>>c;
if(c=='y'||c=='Y')
add();
}
else
{
cout<<"\n Orders are full ";
}

}
void serve()
{
if(isempty()==0)
{
if(front==rear)
{
cout<<"\n Order served is : "<<q[front];
front=-1;
rear=-1;
}
else
{
cout<<"\n Order served is : "<<q[front];
front=(front+1)%5;
}
}
else
{
cout<<"\n Orders are empty ";
}
}
void display()
{
if(isempty()==0)
{
for(int
i=front;i!=rear;i=(i+1)%5)
```

```
 {
 cout<<q[i]<<"
<- ";
 }
 cout<<q[rear];
 }
 else
 {
 cout<<"\n Orders are empty";
 }
 }
 void check()
 {
 int ch;
cout<<"\n\n * * * * PIZZA PARLOUR * * * * \n\n";
 cout<<"\n 1. Add a Pizza \n 2. Display the Orders \n 3. Serve a pizza \n 4. Exit \n Enter your choice :
";
 cin>>ch;
switch(ch)
{
 case 1:
 add();
break;

 case 2:

display();
 break;

 case 3:

serve();
 break;

 case 4:

exit(0);

 default:
 cout<<"Invalid choice ";

check();
 }
char ch1;
cout<<"\n Do you want to continue? ";
 cin>>ch1;
 if(ch1=='y'||ch1=='Y')
check();
```

```
 }
};
int main()
{
 pizza p1;
 p1.check();
 return 0;
}
```