/\*Pizza parlor accepting maximum M orders. Orders are served in first come first served basis.

Order once placed cannot be cancelled.

Write C++ program to simulate the system using circular queue using\*/

#include<iostream>

using namespace std;

class Queue{

    public:

const static int size=5;

int rear=-1;

int front=-1;

int queue[size];

void Place\_order(int x)

{

    if(front==-1 and rear==-1)

    {

        front=rear=0;

        queue[rear]=x;

    }

    else if(((rear+1)%size)==front)

    {

        cout<<"Ooo So Sorry, You Can't order as the orders are reached to the maximum."<<endl;

    }

    else

    {

        rear=(rear+1)%size;

        queue[rear]=x;

    }

}

void delivered\_order()

{

    if(front==-1 and rear==-1)

    {

        cout<<"All the Pizzas are Delivered!!!"<<endl;

    }

    else if(front==rear)

    {

        front=rear=-1;

    }

    else

    {

        cout<<"Delivered Pizza:"<<queue[front];

        front=(front+1)%size;

    }

}

void display()

{

    int i=front;

    if(front==-1 and rear==-1)

    {

        cout<<"All the Pizzas are Delivered!!!"<<endl;

    }

    else

    {

        while(i!=rear)

        {

            cout<<"The ordered Pizza's are:"<<queue[i]<<endl;

            i=(i+1)%size;

        }

        cout<<"The ordered Pizza's are:"<<queue[rear];

    }

}

};

int main()

{

    Queue q;

    int val,choice;

     do{

        cout << "\n\nWelcome To Pizza Parlor. Enter option number for Order. Enter 0 to exit" << endl;

        cout << "1.Place an Order" << endl;

        cout << "2.Display Order" << endl;

        cout << "3.Deliver Order" << endl;

        cin >> choice;

    switch(choice)

    {

        case 0:

        break;

        case 1:

        int val;

        cout<<"Pizza types:1.Margherita  2.Paneer  3.Cheese  4.Italian"<<endl;

        cout<<"Pizza order for:"<<endl;

        cin>>val;

        if(val>4)

        {

            cout<<"Sorry this can't be ordered!!"<<endl;

        }

         else

        {

        cout<<"Your ordered pizza "<<val<<" Placed!!"<<endl;

        q.Place\_order(val);

        }

        break;

        case 2:

        q.display();

        break;

        case 3:

         q.delivered\_order();

        break;

        default:

        cout<<"Plz enter valid no!!"<<endl;

    }

     }while(choice!=0);

    return 0;

}

Output:-

Welcome To Pizza Parlor. Enter option number for Order. Enter 0 to exit

1.Place an Order

2.Display Order

3.Deliver Order

1

Pizza types:1.Margherita 2.Paneer 3.Cheese 4.Italian

Pizza order for:

1

Your ordered pizza 1 Placed!!

Welcome To Pizza Parlor. Enter option number for Order. Enter 0 to exit

1.Place an Order

2.Display Order

3.Deliver Order

1

Pizza types:1.Margherita 2.Paneer 3.Cheese 4.Italian

Pizza order for:

2

Your ordered pizza 2 Placed!!

Welcome To Pizza Parlor. Enter option number for Order. Enter 0 to exit

1.Place an Order

2.Display Order

3.Deliver Order

2

The ordered Pizza's are:1

The ordered Pizza's are:2

Welcome To Pizza Parlor. Enter option number for Order. Enter 0 to exit

1.Place an Order

2.Display Order

3.Deliver Order

3

Delivered Pizza:1

Welcome To Pizza Parlor. Enter option number for Order. Enter 0 to exit

1.Place an Order

2.Display Order

3.Deliver Order

3

Welcome To Pizza Parlor. Enter option number for Order. Enter 0 to exit

1.Place an Order

2.Display Order

3.Deliver Order

4

Plz enter valid no!!