Problem Statement :- 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 array

```cpp
#include<iostream>
#define size 5
using namespace std;
class pizzaparlor
{
    int order[size];
    int front,rear;
    public:
    pizzaparlor()
    {
        front=rear=-1;
    }
    int qfull()
    {
        if((front==0)&&(rear==size-1)||(front=rear+1)%size)
        {
            return 1;
        }
        else
        {
            return 0;
        }
    }
    int qempty()
    {
        if(front==-1)
        {
            return 1;
        }
        else
        {
            return 0;
        }
    }
```

```cpp
    void takeorder(int);
    void serveorder();
    void display();
};
void pizzaparlor::takeorder(int item)
{
    if(qfull())
    {
        cout<<"Sorry!!! NO MORE ORDER ACCEPTED";
    }
    else
    {
        if(front==-1)
        {
            front=rear=0;
        }
        else
        {
            rear=(rear+1)%size;
        }
        order[rear]=item;
    }
}
void pizzaparlor::serveorder()
{
    if(front==-1)
    {
        cout<<"NO ORDER IN PARLOR";
    }
    else
    {
        cout<<"Order No."<<order[front]<<" is ready";
        if(front==rear)
        {
            front=rear=-1;
        }
        else
        {
            front=(front+1)%size;
```

```cpp
        }
    }
}
void pizzaparlor::display()
{
    int i;
    if(front==-1)
    {
        cout<<"DONE WITH ALL ORDERS";
        return;
    }
    else
    {
        cout<<"ORDER ID IS : \n";
        if(i=front,i!=rear,i=i+1)
        {
            cout<<order[i]<<endl;
        }
        cout<<order[rear];
    }
}
int main()
{
    int ch,m;
    pizzaparlor p;
    do
    {
        cout<<"\n !!! PIZZA HUT !!! \n";
        cout<<"\n******** SELECT YOUR OPTION MENU ********\n";
        cout<<"\n1. Accept Order\n2. Serve Order\n3. Display Order\n4. Exit\n";
        cin>>ch;
        switch(ch)
        {
        case 1:
        cout<<"Which pizza would you like to select : \n";
        cout<<"\n1. Panner Pizza\n2. Veg Pizza\n3. Cheesy Pizza\n";
        cout<<"Please select : ";
        cin>>m;
        p.takeorder(m);
```
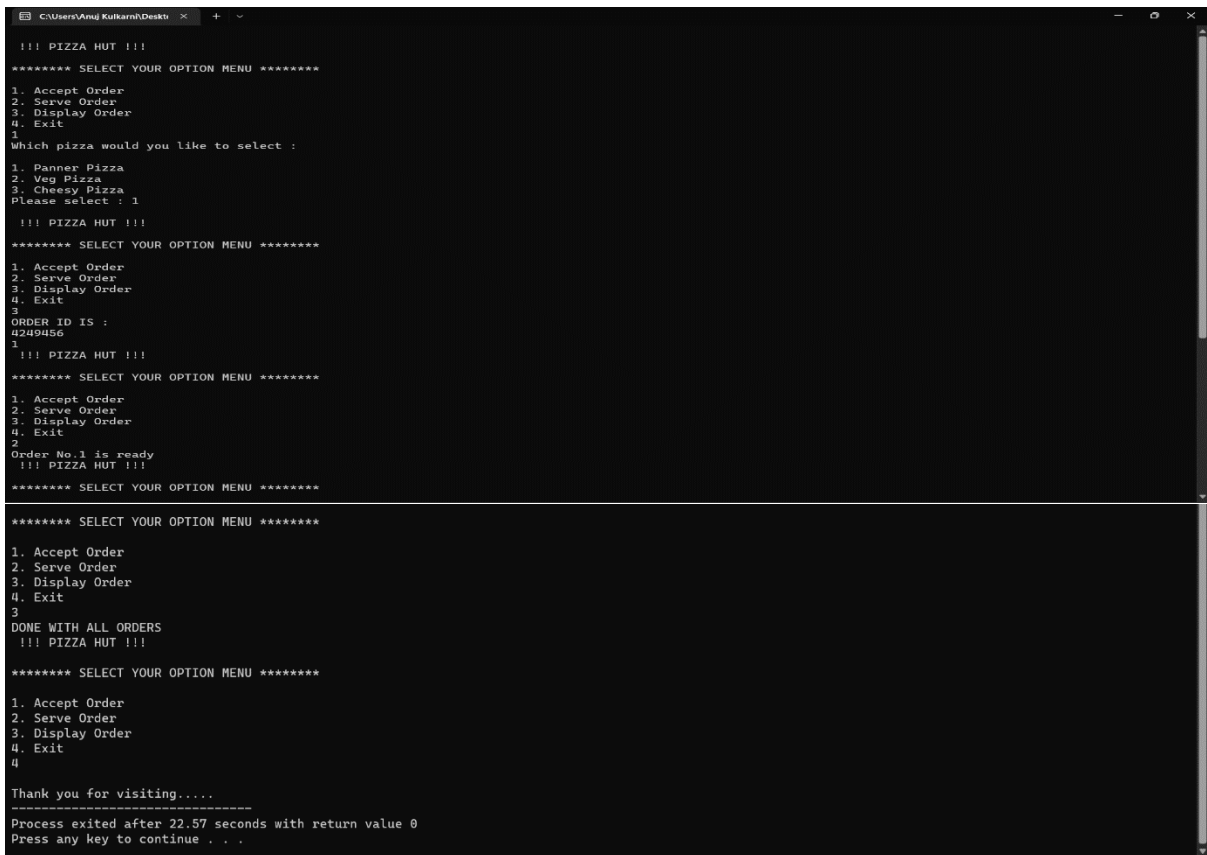
```
        break;
        case 2: p.serveorder();
        break;
        case 3: p.display();
        break;
        }
    }
    while (ch!=4);
    cout<<"\nThank you for visiting.....";
    return 0;
}
```

Output :-