**Assignment- E13**

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**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

**Program:**

#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;

}

**Output:**

