Assignment No 13

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:

cout<<"Thank You For using this program !"<<endl;

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 :

\* \* \* \* PIZZA PARLOUR \* \* \* \*

1. Add a Pizza

2. Display the Orders

3. Serve a pizza

4. Exit

Enter your choice : 1

Enter the Pizza ID: 4131

Do you want to add another order ? y

Enter the Pizza ID: 3141

Do you want to add another order ? y

Enter the Pizza ID: 4100

Do you want to add another order ? y

Enter the Pizza ID: 3100

Do you want to add another order ? n

Do you want to continue? y

\* \* \* \* PIZZA PARLOUR \* \* \* \*

1. Add a Pizza

2. Display the Orders

3. Serve a pizza

4. Exit

Enter your choice : 2

4131 <- 3141 <- 4100 <- 3100

Do you want to continue? y

\* \* \* \* PIZZA PARLOUR \* \* \* \*

1. Add a Pizza

2. Display the Orders

3. Serve a pizza

4. Exit

Enter your choice : 3

Order served is : 4131

Do you want to continue? y

\* \* \* \* PIZZA PARLOUR \* \* \* \*

1. Add a Pizza

2. Display the Orders

3. Serve a pizza

4. Exit

Enter your choice : 3

Order served is : 3141

Do you want to continue? y

\* \* \* \* PIZZA PARLOUR \* \* \* \*

1. Add a Pizza

2. Display the Orders

3. Serve a pizza

4. Exit

Enter your choice : 4

Thank You For Using This Program !