* Data Structure Lab (DSL):- Practical Number - 12 (Group - E)

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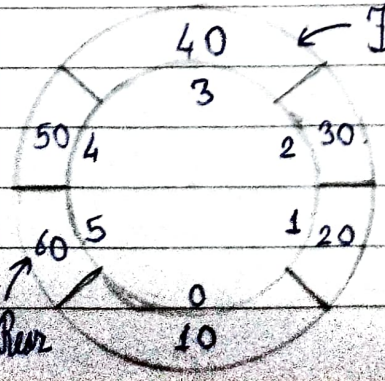
Title:- To simulate Pizza order system using circular queue using array.

Aim:- Write a C++ program to simulate system using circular queue using array.

Objective:-
- To study the concepts of circular queue.
- To perform operations on circular queue using arrays.

Theory:-
A circular queue is a linear data structure in which the operations are performed based on FIFO principal and the last position is connected back to the first position to make a circle. It is also called 'Ring Buffer'.



formula for setting the front and rear pointer for circular queue.

rear = (rear + 1) % size.
front = (front + 1) % size.

Algorithm:-

Step 1: Start

Step 2: Intialize class Pizza
initialize max, f, r;

Step 3: public class pizza()
f = -1 , r = -1
print ("Enter Maximum order");

Step 4: full()
if (((f == 0) && (r == (max - 1))) || (f == (r + 1) % max
return 1;
else
return 0

Step 5:- empty()
if (f = -1)
return 1;
else
return 0;
add (int s)

Step 6: ^ check if (full())
print ("Order is full");
elseif (f == -1)
f = r = 0
else
r = (r + 1) % max
order [r] = s.

Step 7: remove ()
int i;
i = order [f]
if (f == r)
f = r = -1;

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else
    f = (f+1) % max;
print ("Order Deleted")
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Step 8: display()

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int temp
    temp = f
if (empty())
    print ("No more currently");
else
    print ("The order are:")
        print (order [temp])
        temp = (temp+1) % max
```

Step 9: main()

```
int ch;
```

Step 10: Create a menu drive code using do while to operate on above function

Return 0.

Program:-

Output:-

Conclusion:-

Thus, the Pizza order system simulated using circular queue array operation.