

Day: _____

Date: _____

Assingement : 03

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Section : B
Subject : DSA Lab
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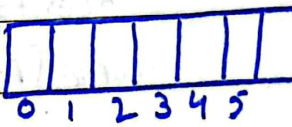
Linear Queue

Program:

```
int queue[6], n=6
```

```
int front = -1, Rear = -1
```

F = -1
R = -1



```
void insert() {
```

```
    int value; // Declare variable
```

```
    if (Rear == n-1) // Condition not satisfy
```

```
        cout << "Queue overflow";
```

```
    }
```

```
    else
```

```
        if (front == -1) // Contion satisfy
```

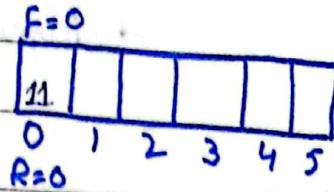
```
            front = 0;
```

```
        else
```

```
            cin >> value; // Take input
```

```
            rear++;
```

queue[rear] = value;



if (rear == n-1) // Go back to if condition
{ cout << "Queue overflow";
}

else

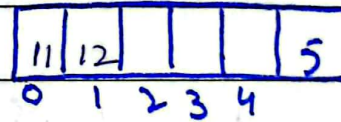
if (front == -1) // Not satisfy
front = 0;

else

cin >> value;

rear++;

queue[rear] = value



if (Rear == n-1) // Go back to if condition
{

cout << "Queue overflow";

}

else

if (front == -1) // Not satisfy
front = 0;

else

cin >> value

rear++;

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$$\text{queue}(\text{rear}) = \text{value}$$

13	12	13			
0	1	2	3	4	5

① Repeat these steps until queue gets full.

F=0					
11	12	13	14	15	16
0	1	2	3	4	5
					R=5

```

if (Rear == n-1) // Go back to if condition
{ cout << "Queue overflow"; // Condition satisfy
}

```

```

void display() {

```

```

    if (Front == -1) // Not satisfy
    {

```

```

        cout << "Queue is empty";
    }

```

```

    else

```

```

        cout << "Queue elements are";

```

```

        for (int i = front; i < Rear; i++)

```

```

            cout << queue[i];

```

```

        cout << endl;

```

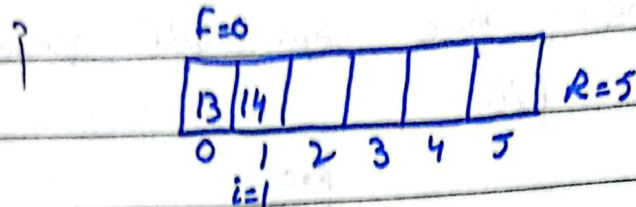
F=0

13					
0	1	2	3	4	5
					R=5
i=0					

```

for (int i = front; i <= rear; i++)
{
    cout << queue[i];
    cout << endl;
}

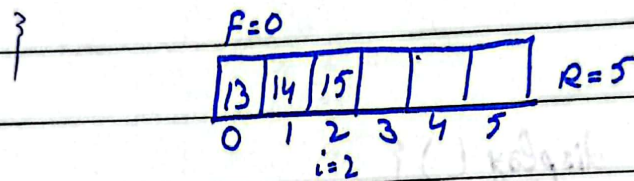
```



```

for (int i = front; i <= rear; i++) {
    cout << queue[i];
    cout << endl;
}

```



```

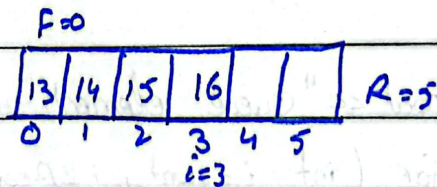
for (int i = front; i <= rear; i++)
{

```

```

    cout << queue[i];
    cout << endl;

```



```

for (int i = front; i <= rear; i++)
{

```

```

    cout << queue[i];
    cout << endl;
}

```

```

}

```


13	14	15	16	17	18
0	1	2	3	4	5

Queue is full

Output: 13, 14, 15, 16, 17, 18

```
void delete() {
```

```
    if (front == -1 || front > Rear)
    {
```

```
        cout << "Queue underflow";
```

```
    }
```

```
else
```

```
    cout << "Elements delete" << queue[front];
```

f=0

13	14	15	16	17	18
0	1	2	3	4	5

R=5

f=0

X	14	15	16	17	18
0	1	2	3	4	5

R=5

```
    front ++;
```

F=1

X	14	15	16	17	18
0	1	2	3	4	5

R=5

```
if (front == -1 || front > Rear)
```

```
{    cout << "Queue underflow";
```

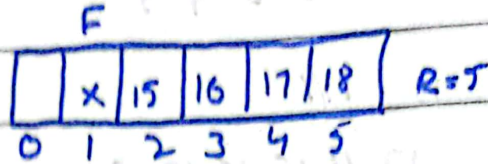
```
}
```

else

```

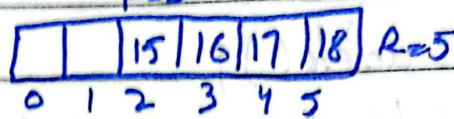
{ cout << "Element delete" << Queue[front];

```



Front ++;

F=2



```

if (front == -1 || front > Rear)

```

```

{

```

```

    cout << "Queue underflow";

```

```

}

```

else {

```

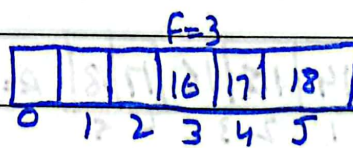
    cout << "Element deleted" << Queue[front]

```

```

    front++;

```



```

if (front == -1 || front > Rear)

```

```

{

```

```

    cout << "Queue underflow";

```

```

}

```
