

Class Members:

- `int* arr` → dynamic array of size `n` to store queue elements.
- `int front, rear` → pointers:
 - `front` points to the **first element**.
 - `rear` points to the **last element**.

```
Queue elements: 10 20 30
Queue elements: 30
Empty Queue!
```

Initially: `front = rear = -1` (queue is empty).

Function Explanations:

1. `push(int x)` → Enqueue

- Adds element `x` at the end (`rear`).
- Checks for **overflow**: if `rear == n-1`, no space left.
- If it's the **first element**, sets `front = 0`.

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```
Q.push(10); Q.push(20); Q.push(30);
```

→ Queue becomes: 10 20 30 (`front = 0`, `rear = 2`)

2. `pop()` → Dequeue

- Removes the front element by incrementing `front`.
- Checks for **underflow**: if queue is already empty (`front > rear` or `front == -1`).

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```
Q.pop(); Q.pop();
```

→ Removes 10 and 20

→ Now `front = 2`, `rear = 2` → Queue has only 30.

3. `display()`

- Prints all elements from `front` to `rear`.
- If `front > rear`, queue is empty.