

Queue operation using Array

Enqueue & Dequeue(Insertion & Deletion)-

```
#include <iostream>
using namespace std;
```

```
class Queue{
public:
    int arr[5];
    const int n =100;
    int front;
    int rear;
```

```
public:
    Queue(){
        front=-1;
        rear=-1;
    }
```

```
bool isFull(){
    return(rear==n -1);
}
```

```
bool isEmpty(){
    return(front== -1);
}
```

```
void Enqueue(int value){
```

```
if(isFull()){
    cout<<"Queue is Full"<<endl;
    return;
}
if(front== -1){
    front = 0;
}
rear++;
arr[rear]=value;

cout<<"Insert "<<value<<endl;
}

void Dequeue() {
if (isEmpty()) {
    cout << "Queue is Empty! Cannot Dequeue." << endl;
    return;
}
cout << "Removed: " << arr[front] << endl;
front++;

if (front > rear) {
    front = -1;
    rear = -1;
}
}

void display(){

    if (isEmpty()) {
        cout << "Queue is empty!" << endl;
        return;
    }
    for(int i=front; i<=rear;i++){
        cout<<arr[i]<<" ";
    }
}
```

```
        cout<<endl;
    }

};

int main() {
    Queue q;
    q.Enqueue(10);
    q.Enqueue(50);
    q.Enqueue(56);
    q.Enqueue(76);
    q.display();
    q.Dequeue(); // Removes 10
    q.display();

    q.Dequeue(); // Removes 50
    q.display();

    return 0;
}
```

Output-

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Output

```
Insert 10
Insert 50
Insert 56
Insert 76
10 50 56 76
Removed: 10
50 56 76
Removed: 50
56 76
```

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