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

class Deque {
private:
    static const int MAX_SIZE = 5;
    int arr[MAX_SIZE];
    int front, rear;

public:
    Deque() : front(-1), rear(-1) {}

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

    bool isFull() {
        return (rear + 1) % MAX_SIZE == front;
    }

    void insertFront(int value) {
        if (isFull()) {
            cout << "Deque is full. Cannot insert at front.\n";
            return;
        }

        if (isEmpty()) {
            front = rear = 0;
        } else {
            front = (front - 1 + MAX_SIZE) % MAX_SIZE;
        }

        arr[front] = value;
        cout << "Inserted " << value << " at the front.\n";
    }

    void insertRear(int value) {
        if (isFull()) {
            cout << "Deque is full. Cannot insert at rear.\n";
            return;
        }

        if (isEmpty()) {
            front = rear = 0;
        } else {
            rear = (rear + 1) % MAX_SIZE;
        }

        arr[rear] = value;
        cout << "Inserted " << value << " at the rear.\n";
```

```
    }

    void deleteFront() {
        if (isEmpty()) {
            cout << "Deque is empty. Cannot delete from front.\n";
            return;
        }

        if (front == rear) {
            front = rear = -1;
        } else {
            front = (front + 1) % MAX_SIZE;
        }

        cout << "Deleted element from the front.\n";
    }

    void deleteRear() {
        if (isEmpty()) {
            cout << "Deque is empty. Cannot delete from rear.\n";
            return;
        }

        if (front == rear) {
            front = rear = -1;
        } else {
            rear = (rear - 1 + MAX_SIZE) % MAX_SIZE;
        }

        cout << "Deleted element from the rear.\n";
    }

    void display() {
        if (isEmpty()) {
            cout << "Deque is empty.\n";
            return;
        }

        int i = front;
        do {
            cout << arr[i] << " ";
            i = (i + 1) % MAX_SIZE;
        } while (i != (rear + 1) % MAX_SIZE);
        cout << "\n";
    }
};

int main() {
    Deque deque;
```

```
    deque.insertFront(1);
    deque.insertRear(2);
    deque.insertFront(3);
    deque.display();

    deque.deleteFront();
    deque.display();

    deque.deleteRear();
    deque.display();

    return 0;
}
```