```c
#include <stdio.h>
#include <stdlib.h>

#define MAX_SIZE 5

int queue[MAX_SIZE];
int front = -1, rear = -1;



void enqueue() {
   int n;
   printf("Enter number: ");
   scanf("%d", &n);
   if (front == 0 && rear == MAX_SIZE - 1) {
      printf("Queue Overflow");
      exit(1);
   }

   if (front == -1 && rear == -1) {
      front = rear = 0;  // If the queue is empty, set front to 0
   }
   else if(rear == MAX_SIZE-1 && front != 0)
   {
      rear = 0;
   }
   else
   rear++;
   queue[rear] = n;
   printf("Inserted %d into the queue.\n", n);
}
```

```
void dequeue() {
    if (front == -1) {
        printf("Queue Underflow");
        return;
    }

    printf("Deleted %d from the queue.\n", queue[front]);

    if (front == rear) {
        // If there was only one element in the queue, reset front and rear
        front = -1;
        rear = -1;
    }
    else if(front == MAX_SIZE-1){
        front = 0;
    }
        else {
        front++;
    }
}

void display() {
    if (front == -1) {
        printf("Queue Underflow.\n");
        exit(1);
    }

    printf("Elements in the queue: ");
    if( rear >= front){
        for (int i = front; i <= rear; i++) {
        printf("%d ", queue[i]);
```

```
    }
    }
    else{
        for (int i = front; i <= MAX_SIZE-1; i++) {
        printf("%d ", queue[i]);
    }
    for (int i = 0; i <= rear; i++) {
        printf("%d ", queue[i]);
    }
}
    printf("Shreyash Sinha 1BM22CS273");
    exit(1);
}

void main() {
    while(1){
        int choice;
        printf("Enter 1 for Enqueue \nEnter 2 for Dequeue \nEnter 3 for Display");
        printf("Enter your choice: ");
        scanf("%d", &choice);
        switch(choice){
            case 1: enqueue();
                    break;
            case 2: dequeue();
            break;
            case 3:display();
            break;
        }
    }
    printf("Shreyash Sinha 1BM22CS273");
}
```

```
Enter 1 for Enqueue
Enter 2 for Dequeue
Enter 3 for DisplayEnter your choice: 1
Enter number: 23
Inserted 23 into the queue.
Enter 1 for Enqueue
Enter 2 for Dequeue
Enter 3 for DisplayEnter your choice: 1
Enter number: 46
Inserted 46 into the queue.
Enter 1 for Enqueue
Enter 2 for Dequeue
Enter 3 for DisplayEnter your choice: 2
Deleted 23 from the queue.
Enter 1 for Enqueue
Enter 2 for Dequeue
Enter 3 for DisplayEnter your choice: 3
Elements in the queue: 46 Shreyash Sinha 1BM22CS273
```