

```

#include <stdio.h>
#include <stdbool.h>

#define MAX_SIZE 100

typedef struct {
    int array[MAX_SIZE];
    int front;
    int rear;
} Queue;

void initializeQueue(Queue *queue) {
    queue->front = -1;
    queue->rear = -1;
}

bool isEmpty(Queue *queue) {
    return (queue->front == -1 && queue->rear == -1);
}

bool isFull(Queue *queue) {
    return (queue->rear + 1) % MAX_SIZE == queue->front;
}

void enqueue(Queue *queue, int value) {
    if (isFull(queue)) {
        printf("Queue is full, cannot enqueue.\n");
        return;
    } else if (isEmpty(queue)) {
        queue->front = queue->rear = 0;
    } else {
        queue->rear = (queue->rear + 1) % MAX_SIZE;
    }
    queue->array[queue->rear] = value;
}

int dequeue(Queue *queue) {
    int value;
    if (isEmpty(queue)) {
        printf("Queue is empty, cannot dequeue.\n");
        return -1;
    } else if (queue->front == queue->rear) {
        value = queue->array[queue->front];
        queue->front = queue->rear = -1;
    } else {
        value = queue->array[queue->front];
        queue->front = (queue->front + 1) % MAX_SIZE;
    }
    return value;
}

int main() {
    printf("K.R.Vishnu Chaithanya\n");
    printf("192372057\n");
    Queue queue;
    initializeQueue(&queue);
    enqueue(&queue, 50);
    enqueue(&queue, 20);
    enqueue(&queue, 30);
    printf("Dequeued element: %d\n", dequeue(&queue));
    printf("Dequeued element: %d\n", dequeue(&queue));
    printf("Dequeued element: %d\n", dequeue(&queue));
    printf("Dequeued element: %d\n", dequeue(&queue));
    return 0;
}

```

/tmp/IZND84xr3i.o

K.R.Vishnu Chaithanya

192372057

Dequeued element: 50

Dequeued element: 20

Dequeued element: 30

Queue is empty, cannot dequeue.

Dequeued element: -1