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//Om Gavande //CS2145
#include <stdio.h>
#define N 5


int queue[N];
int front = -1;
int rear = -1;
void enqueue();
void dequeue();
void display();


int main()
{
  enqueue(10);
  enqueue(20);
  enqueue(30);
  enqueue(40);
  enqueue(50);
  display();
  dequeue();
}


void enqueue(int x)
{
  if ((rear + 1) % N == front) {
     printf("Queue is full\n");
  }
  else if (front == -1 && rear == -1) {
     front = rear = 0;
     queue[rear] = x;
     printf("Enqueued: %d\n", x);
  }
  else {
     rear = (rear + 1) % N;
     queue[rear] = x;
     printf("Enqueued: %d\n", x);
  }
}


void dequeue()
{
  if (front == -1 && rear == -1) {
     printf("Queue is empty\n");
  }
  else {
     printf("Dequeued: %d\n", queue[front]);
     if (front == rear) {
        front = rear = -1;
     }
```

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    else {
      front = (front + 1) % N;
    }
  }
}


void display()
{
  if (front == -1 && rear == -1) {
    printf("Queue is empty\n");
  }
  else {
    printf("Queue elements are:\n");
    int i = front;
    while (i != rear) {
      printf("%d\n", queue[i]);
      i = (i + 1) % N;
    }
    printf("%d\n", queue[rear]);
  }
}
```