

classmate  
Date \_\_\_\_\_  
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```
#include <stdio.h>
```

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

```
#define MAX 3
```

```
int front = 0;
```

```
int rear = -1;
```

```
int queue[MAX];
```

```
void Enqueue(int);
```

```
int Dequeue();
```

```
void display();
```

```
int main(int argc, char **argv)
{
```

```
    int option;
```

```
    int item;
```

```
    do {
```

```
        printf("\n1. Insert an element to Queue (Enqueue)");
```

```
        printf("\n2. Delete an element from Queue (Dequeue)");
```

```
        printf("\n3. Display the content of the Queue");
```

```
        printf("\n4. Exit\n");
```

```
        printf("Enter the option: ");
```

```
        scanf("%d", &option);
```

```
        switch(option)
```

```
        {
```

```
            case 1: printf("Enter the element\n");
```

```
                    scanf("%d", &item);
```

```
                    Enqueue(item);
```

```
                    break;
```

```
case 2 : item = Dequeue();
        if (item == -1);
            printf("Queue is empty\n");
        else
            printf("Removed %d element from the queue", item);
        break;
```

```
case 3 : display();
        break;
```

```
case 4 : exit(0);
}
```

```
} while (option != 4);
return 0;
```

```
}
```

```
void Enqueue(int ele)
{
```

```
    if (rear == MAX - 1)
        printf("Queue is full\n");
    else
    {
```

```
        rear++;
        queue[rear] = ele;
    }
```

```
}
```

```
int Dequeue()
```

```
{
```

```
    int item;
```

```
    if (front == -1)
```

```
        return -1;
```

```
    else
```

```
    {
```

```
        item = queue[front];
```

```
        front++;
```

```
        if (front > rear)
```

```
        {
```

```
            front = -1;
```

```
            rear = -1;
```

```
        }
```

```
        return item;
```

```
    }
```

```
}
```

```
void display()
```

```
{
```

```
    int i;
```

```
    if (front == -1)
```

```
    {
```

```
        printf("Queue is empty\n");
```

```
    }
```

```
    else
```

```
    {
```

```
        printf("Queue contents:\n");
```

```
        for (i = front; i <= rear; i++)
```

```
        {
```

```
            printf("\n %d", queue[i]);
```

```
        }
```

```
    }
```