

Practice: Circular Queue;

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

```
#include <conio.h>
```

```
#define QUE_SIZE 3
```

```
int item, front = 0, rear = -1, q[QUE_SIZE],  
    count = 0;
```

```
void insertrear()
```

```
{  
    if (count == QUE_SIZE)
```

```
{
```

```
        pf("Queue Overflow\n");
```

```
        return;
```

```
}
```

```
    rear = (rear + 1) % QUE_SIZE;
```

```
    q[rear] = item;
```

```
    count++;
```

```
}
```

```
int deletefront()
```

```
{
```

```
    if (count == 0) return -1;
```

```
    item = q[front];
```

```
    front = (front + 1) % QUE_SIZE;
```

```
    count = count - 1;
```

```
    return item;
```

```
}
```



```
void displayQ()
```

```
{    int i, f;
    if (Count == 0)
    {
        pf ("queue is empty \n");
        return;
    }
    f = front;
    printf ("Contents of Queue \n");
    for (i = 1; i <= Count; i++)
    {
        printf ("%d \n", q[f]);
        f = (f + 1) % QUE_SIZE;
    }
}
```

```
void main()
```

```
{
    int choice;
    for (;;)
    {
        printf ("1: insert rear\n2: delete front\n3: display\n4: exit \n");
        printf ("enter the choice \n");
        scanf ("%d", &choice);
```

```
switch (choice)
```

```
{
    case 1: printf ("enter items to be\ninserted \n");
            scanf ("%d", &item);
            insertrear ();
            break;
```

```
Case 2: item = deletefront();  
        if (item == -1)  
            printf("Queue is empty\n");  
        else  
            printf("Item deleted =  
                %d\n", item);  
        break;
```

```
Case 3: display();  
        break;  
default: exit(0);
```

```
}
```

```
}
```

```
}
```