

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #define Q_SIZE 3
4 int item,front=0,rear=-1,q[Q_SIZE],count=0;
5 void insertrear()
6 {
7     if(count==Q_SIZE)
8     {
9         printf("QUEUE OVERFLOW\n");
10        return;
11    }
12    rear=(rear+1)%Q_SIZE;
13    q[rear]=item;
14    count++;
15 }
16 int deletefront()
17 {
18     if(count==0) return -1;
19     item=q[front];
20     front=(front+1)%Q_SIZE;
21     count=count-1;
22     return item;
23 }
24 void displayQ()
25 {
26     int i;
27     if(count==0)
28     {
29         printf("Queue is empty\n");
30         return;
31     }
32     printf("Contents of queue \n");
33     for(i=1;i<=count;i++)
34     {
35         printf("%d\n",q[front]);
36         front=(front+1)%Q_SIZE;
37     }
38 }
39 void main()
```

```
28 {
29     printf("Queue is empty\n");
30     return;
31 }
32 printf("Contents of queue \n");
33 for(i=1;i<=count;i++)
34 {
35     printf("%d\n",q[front]);
36     front=(front+1)%Q_SIZE;
37 }
38 }
39 void main()
40 {
41     int choice;
42     for(;;)
43     {
44         printf("\n1:insertrear\n2:deletefront\n3:display\n4:exit\n");
45         printf("Enter the choice\n");
46         scanf("%d",&choice);
47         switch(choice)
48         {
49             case 1:printf("Enter the item to be inserted\n");
50                 scanf("%d",&item);
51                 insertrear();
52                 break;
53             case 2:item=deletefront();
54                 if(item==-1)
55                     printf("queue is empty\n");
56                 else
57                     printf("item deleted =%d\n",item);
58                 break;
59             case 3:displayQ();
60                 break;
61             default:exit(0);
62         }
63     }
64 }
65
```

```
1:insertrear
2:deletefront
3:display
4:exit
Enter the choice
1
Enter the item to be inserted
35
```

```
1:insertrear
2:deletefront
3:display
4:exit
Enter the choice
1
Enter the item to be inserted
45
```

```
1:insertrear
2:deletefront
3:display
4:exit
Enter the choice
1
Enter the item to be inserted
55
```

```
1:insertrear
2:deletefront
3:display
4:exit
Enter the choice
3
Contents of queue
35
45
```

```
4:exit
Enter the choice
3
Contents of queue
35
45
55

1:insertrear
2:deletefront
3:display
4:exit
Enter the choice
2
item deleted =35

1:insertrear
2:deletefront
3:display
4:exit
Enter the choice
1
Enter the item to be inserted
65

1:insertrear
2:deletefront
3:display
4:exit
Enter the choice
3
Contents of queue
45
55
65

1:insertrear
```