

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #define SIZE 3
4 int rear=-1, front=0, item;
5 int count=0;
6 int q[10];
7 int ch;
8 void insert_rear() {
9     if (rear==SIZE-1) {
10         printf("Queue Overflow\n");
11         return;
12     }
13     rear=rear+1;
14     q[rear]=item;
15     count++;
16 }
17 void insertion_sort() {
18     int i, j, flag;
19     for (i=1; i<count; i++)
20     {
21         flag=q[i];
22         j=i-1;
23         while (j>=0 && q[j]>flag) {
24             q[j+1]=q[j];
25             j=j-1;
26         }
27         q[j+1]=flag;
28     }
29 }
30 void Remove_Small() {
31     if (front>rear) {
32         front=0;
33         rear=-1;
34         printf("Queue is empty\n");
35         return;
36     }
37     printf("Item deleted=%d\n", q[front++]);
38 }
```

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35     return;
36 }
37 printf("Item deleted=%d\n",q[front++]);
38 }
39 void display(){
40     int i;
41     if (front>rear){
42         printf("Queue is empty\n");
43         return;
44     }
45     printf("Contents of the queue are :\n");
46     for(i=front;i<=rear;i++)
47     {
48         printf("%d\n",q[i]);
49     }
50 }
51 int main(){
52     for (;;)
53     {
54         printf("\n1:Insert_Rear\n2:Remove_Small\n3:Display\n4:Exit\n");
55         printf("Enter the choice:\n");
56         scanf("%d",&ch);
57         switch (ch){
58             case 1:printf("Enter the item:\n");
59                     scanf("%d",&item);
60                     insert_rear();
61                     insertion_sort();
62                     break;
63             case 2:Remove_Small();
64                     break;
65             case 3:display();
66                     break;
67             default:exit(0);
68         }
69     }
70     return 0;
71 }
72

```

```
1:Insert_Rear
2:Remove_Small
3:Display
4:Exit
```

Enter the choice:

```
1
Enter the item:
10
```

```
1:Insert_Rear
2:Remove_Small
3:Display
4:Exit
```

Enter the choice:

```
1
Enter the item:
5
```

```
1:Insert_Rear
2:Remove_Small
3:Display
4:Exit
```

Enter the choice:

```
1
Enter the item:
15
```

```
1:Insert_Rear
2:Remove_Small
3:Display
4:Exit
```

Enter the choice:

```
3
Contents of the queue are :
5
10
15
```

```
1:Insert_Rear
2:Remove_Small
3:Display
4:Exit
```

Enter the choice:

```
2
Item deleted=5
```

```
1:Insert_Rear
2:Remove_Small
3:Display
4:Exit
```

Enter the choice:

Item deleted=5

1:Insert\_Rear

2:Remove\_Small

3:Display

4:Exit

Enter the choice:

2

Item deleted=10

1:Insert\_Rear

2:Remove\_Small

3:Display

4:Exit

Enter the choice:

2

Item deleted=15

1:Insert\_Rear

2:Remove\_Small

3:Display

4:Exit

Enter the choice:

3

Queue is empty

1:Insert\_Rear

2:Remove\_Small

3:Display

4:Exit

Enter the choice:

4

-----  
(program exited with code: 0)

Press any key to continue . . .