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8
9 #include <stdio.h>
10 #include <stdlib.h>
11 #define QUE_SIZE 3
12 void insertrear();
13 int deletefront();
14 void displayq();
15 int item, front = 0, rear = -1, q[100];
16 void main(){
17     int choice=1;
18     while(choice != 0){
19         printf("Enter your choice\n");
20         printf("1.insert rear\n2.delete front\n3.display\n4.exit\n");
21         scanf("%d",&choice);
22         switch (choice)
23         {
24             case 1:printf("Enter the item to be inserted\n");
25                 scanf("%d",&item);
26                 insertrear();
27                 break;
28             case 2:item = deletefront();
29                 if(item == -1){
30                     printf("Queue Empty\n");
31                 }
32                 else{
33                     printf("item deleted is %d\n", item);
34                 }
35                 break;
36             case 3:displayq();
37                 break;
38             case 4:choice = 0;
39                 break;
40             default:printf("Invalid input\n");
41         }
42     }
43 }
44 void insertrear(){
45     if(rear == QUE_SIZE-1){
46         printf("Queue oerflow\n");
47     }
48     else{
49         rear = rear + 1;
50         q[rear] = item;
51     }
52 }
53 int deletefront(){

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29-         if(item == -1){
30-             printf("Queue Empty\n");
31-         }
32-         else{
33-             printf("item deleted is %d\n", item);
34-         }
35-         break;
36-         case 3:displayq();
37-         break;
38-         case 4:choice = 0;
39-         break;
40-         default:printf("Invalid input\n");
41-     }
42- }
43- }
44- void insertrear(){
45-     if(rear == QUE_SIZE-1){
46-         printf("Queue oerflow\n");
47-     }
48-     else{
49-         rear = rear + 1;
50-         q[rear] = item;
51-     }
52- }
53- int deletefront(){
54-     if(front>rear){
55-         front =0;
56-         rear = -1;
57-         return -1;
58-     }
59-     return q[front++];
60- }
61- void displayq(){
62-     int i;
63-     if(front>rear){
64-         printf("Empty queue\n");
65-     }
66-     else{
67-         printf("Contents of queue\n");
68-         for(i=front; i<= rear; i++){
69-             printf("%d\n",q[i]);
70-         }
71-     }
72- }
73-

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```
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
1
Enter the item to be inserted
10
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
1
Enter the item to be inserted
20
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
1
Enter the item to be inserted
30
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
1
Enter the item to be inserted
40
Queue oerflow
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
3
Contents of queue
10
20
30
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
2
item deleted is 10
Enter your choice
1.insert rear
2.delete front
```



```
2.delete front
3.display
4.exit
3
Contents of queue
10
20
30
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
2
Item deleted is 10
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
2
Item deleted is 20
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
< 2
Item deleted is 30
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
2
Queue Empty
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
3
Empty queue
Enter your choice
1.insert rear
2.delete front
3.display
4.exit
4
```

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