

linear\_q.cpp

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

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```
23 {
24     printf("queue is empty\n");
25     return;
26 }
27 printf("contents of queue\n");
28 for(i=front; i<=rear; i++)
29 {
30     printf("%d\n", q[i]);
31 }
32 int main()
33 {
34     int choice;
35     for(;;)
36     {
37         printf("1:insertrear 2:deletefront 3:display 4:exit\n");
38         printf("enter the choice\n");
39         scanf("%d", &choice);
40         switch(choice)
41         {
42             case 1: printf("enter the item to be inserted\n");
43                     scanf("%d", &item);
44                     insertrear();
45                     break;
46             case 2: item=deletefront();
47                     if(item!=-1)
48                         printf("queue is empty\n");
49                     else
45                         printf("item deleted=%d\n", item);
46                     break;
47             case 3: displayQ();
48                     break;
49             default: exit(0);
50         }
51     }
52 }
53
54
55
56
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```

C:\Users\sohan\Desktop\C Programs\Data Structures Lab\linear queue\linear\_q.exe

```
1:insertrear 2:deletefront 3:display 4:exit
enter the choice
1
enter the item to be inserted
12
1:insertrear 2:deletefront 3:display 4:exit
enter the choice
1
enter the item to be inserted
32
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
1
enter the item to be inserted
3
queue overflow
1:insertrear 2:deletefront 3:display 4:exit
enter the choice
2
item deleted=12
1:insertrear 2:deletefront 3:display 4:exit
enter the choice
3
contents of queue
32
55
1:insertrear 2:deletefront 3:display 4:exit
enter the choice
4
```

```
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Process exited after 29.8 seconds with return value 0
Press any key to continue . . .
```



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