

Files

main.c

```

1 //input restricted
2 #include<stdio.h>
3 #define qsize 5
4 int f=0,r=-1,ch;
5 int item,q[10];
6
7 int isfull()
8 {
9     return(r==qsize-1)?1:0;
10 }
11 int isempty()
12 {
13     return(f>r)?1:0;
14 }
15 void insert_rear()
16 {
17     if(isfull())
18     {
19         printf("queue overflow\n");
20         return;
21     }
22     r=r+1;
23     q[r]=item;
24 }
25 void delete front()

```

```

> clang-7 -pthread -lm -o main main.c
> ./main
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
1
enter the item
10
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
1
enter the item
20
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
1
enter the item
30
1.insert_rear

```

Files

main.c

```

main.c
26 {
27     if(isempty())
28     {
29         printf("queue empty\n");
30         return;
31     }
32     printf("item deleted is %d\n",q[(f)++]);
33     if(f>r)
34     {
35         f=0;
36         r=-1;
37     }
38 }
39 /*void insert_front()
40 {
41     if(f!=0)
42     {
43         f=f-1;
44         q[f]=item;
45         return;
46     }
47     else if((f==0)&&(r== -1))
48     {
49         q[++(r)]=item;
50     }
51 }
52 */

```

```

30
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
4
10
20
30
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
2
item deleted is 30
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
1
enter the item
40
1.insert_rear
2.delete_rear

```

Files

- main.c

```
main.c
49     q[++(r)]=item;
50     return;
51 }
52 else
53     printf("insertion not possible\n");
54 }*/
55 void delete_rear()
56 {
57     if(isempty())
58     {
59         printf("queue is empty\n");
60         return;
61     }
62     printf("item deleted is %d\n",q[(r)--]);
63     if(f>r)
64     {
65         f=0;
66         r=-1;
67     }
68 }
69 void display()
70 {
71     int i;
72     if(isempty())
```

```
40
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
3
item deleted is 10
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
4
20
40
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
5
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
```

The image displays a code editor with two panes. The left pane shows the original C code for a queue, and the right pane shows the modified code with a menu-driven interface.

Left Pane (main.c):

```
71 int i;
72 if(isempty())
73 {
74     printf("queue empty\n");
75     return;
76 }
77 for(i=f;i<=r;i++)
78     printf("%d\n",q[i]);
79 }
80 int main()
81 {
82
83     for(;;)
84     {
85         printf
86         ("1.insert_rear\n2.delete_rear\n3.delete_front\n4.
87         display\n5.exit\n");
88         printf("enter choice\n");
89         scanf("%d",&ch);
90         switch(ch)
91         {
92             case 1:printf("enter the item\n");
93                 scanf("%d",&item);
94                 insert_rear();
95                 break;
```

Right Pane:

```
40
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
3
item deleted is 10
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
4
20
40
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
5
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
```


Files

main.c

```

main.c
90     case 1:printf("enter the item\n");
91         scanf("%d",&item);
92         insert_rear();
93         break;
94     /*case 2:printf("enter the item\n");
95         scanf("%d",&item);
96         insert_front();
97         break;*/
98     case 2:delete_rear();
99         break;
100    case 3:delete_front();
101        break;
102    case 4:display();
103        break;
104
105    }
106 }
107 return 0;
108 }

```

```

40
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
3
item deleted is 10
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
4
20
40
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit
enter choice
5
1.insert_rear
2.delete_rear
3.delete_front
4.display
5.exit

```

Files

- main.c

main.c

```
1 //output restricted
2 #include<stdio.h>
3 #define qsize 5
4 int f=0,r=-1,ch;
5 int item,q[10];
6
7 int isfull()
8 {
9     return(r==qsize-1)?1:0;
10 }
11 int isempty()
12 {
13     return(f>r)?1:0;
14 }
15 void insert_rear()
16 {
17     if(isfull())
18     {
19         printf("queue overflow\n");
20         return;
21     }
22     r=r+1;
23     q[r]=item;
24 }
25 void delete front()
```

```
> clang-7 -pthread -lm -o main main.c
> ./main
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
1
enter the item
10
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
1
enter the item
20
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
1
enter the item
30
1.insert_rear
```

Files

main.c

```

main.c
26 {
27     if(isempty())
28     {
29         printf("queue empty\n");
30         return;
31     }
32     printf("item deleted is %d\n",q[(f)++]);
33     if(f>r)
34     {
35         f=0;
36         r=-1;
37     }
38 }
39 void insert_front()
40 {
41     if(f!=0)
42     {
43         f=f-1;
44         q[f]=item;
45         return;
46     }
47     else if((f==0)&&(r== -1))
48     {
49         q[++(r)]=item;
50         return;
51     }
52     else if((r!=0))
53     {
54         r=r-1;
55         q[r]=item;
56         return;
57     }
58 }
59 
```

```

2.insert_front
3.delete_front
4.display
5.exit
enter choice
3
item deleted is 10
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
4
20
30
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
2
enter the item
50
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit

```

Files

main.c

```

main.c
49  q[(f>r)-1]=item;
50  return;
51  }
52  else
53  {
54  printf("insertion not possible\n");
55  }
56  /*void delete_rear()
57  {
58  if(isempty())
59  {
60  printf("queue is empty\n");
61  return;
62  }
63  printf("item deleted is %d\n",q[(r)--]);
64  if(f>r)
65  {
66  f=0;
67  r=-1;
68  }
69  }*/
70  void display()
71  {
72  int i;
73  if(isempty())
74  {

```

```

enter choice
4
20
30
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
2
enter the item
50
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
4
50
20
30
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice

```


Files

- main.c

```
main.c
72 if(isempty())
73 {
74     printf("queue empty\n");
75     return;
76 }
77 for(i=f;i<=r;i++)
78     printf("%d\n",q[i]);
79 }
80 int main()
81 {
82     for(;;)
83     {
84         printf
85         ("1.insert_rear\n2.insert_front\n3.delete_front\n4.
86         display\n5.exit\n");
87         printf("enter choice\n");
88         scanf("%d",&ch);
89         switch(ch)
90         {
91             case 1:printf("enter the item\n");
92                 scanf("%d",&item);
93                 insert_rear();
94                 break;
```

```
enter choice
4
20
30
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
2
enter the item
50
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
4
50
20
30
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
```

Files

main.c

```
main.c
92     insert_rear();
93     break;
94     case 2:printf("enter the item\n");
95         scanf("%d",&item);
96         insert_front();
97         break;
98     /* case 3:delete_rear();
99        break;*/
100    case 3:delete_front();
101        break;
102    case 4:display();
103        break;
104
105    }
106 }
107
108 }
```

```
enter choice
4
20
30
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
2
enter the item
50
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
4
50
20
30
1.insert_rear
2.insert_front
3.delete_front
4.display
5.exit
enter choice
```