

```

1 //singly queue
2
3 #include<stdio.h>
4 #include<stdlib.h>
5
6 struct node
7 {
8     int data;
9     struct node *next;
10 };
11
12 struct node *front;
13 struct node *rear;
14 void insertqueue();
15 void deletequeue();
16 void display();
17
18 int main()
19 {
20     int choice;
21     while(choice != 4)
22     {
23         printf("\nMenu\n");
24         printf("1. Insert queue\n");
25         printf("2. Delete queue\n");
26         printf("3. Display Queue\n");
27         printf("4. Exit\n");
28         printf("\nEnter your choice: ");
29         scanf("%d", &choice);
30
31         switch(choice)
32         {
33             case 1:
34                 insertqueue();
35                 break;
36             case 2:
37                 deletequeue();
38                 break;
39             case 3:
40                 display();
41                 break;
42             case 4:
43                 printf("\nExiting the program\n");
44                 break;
45             default:
46                 printf("\nInvalid choice\n");
47         }
48     }
49     return 0;
50 }
51
52 void insertqueue()
53 {
54     struct node *ptr;
55     ptr=(struct node*)malloc(sizeof(struct node));
56     int item;
57     if(ptr==NULL)
58     {
59         printf("\nover flow");
60         return;
61     }
62     else{
63         printf("\nEnter data: ");
64         scanf("%d",&item);
65         ptr->data=item;
66         if(front==NULL){

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67         front=ptr;
68         rear=ptr;
69         front->next=NULL;
70         rear->next=NULL;
71     }
72     else{
73         rear->next=ptr;
74         rear=ptr;
75         rear->next=NULL;
76     }
77 }
78 }
79
80 void deletequeue()
81 {
82     struct node *ptr;
83     if(front == NULL)
84     {
85         printf("Queue is empty\n");
86         return;
87     }
88     else{
89         ptr=front;
90         front=front->next;
91         printf("queue element %d deleted",ptr->data);
92         free(ptr);
93     }
94 }
95
96 void display()
97 {
98     struct node *ptr;
99     ptr=front;
100    if(front == NULL)
101    {
102        printf("Queue is empty\n");
103    }
104    else{
105        printf("\nQueue elements : ");
106        while(ptr!=NULL){
107            printf("%d\t",ptr->data);
108            ptr=ptr->next;
109        }
110    }
111 }

```