```c
1.  /*
2.   * C Program to Implement a Queue using an Array
3.   */
4.  #include <stdio.h>
5.
6.  #define MAX 50
7.
8.  void insert();
9.  void delete();
10. void display();
11. int queue_array[MAX];
12. int rear = - 1;
13. int front = - 1;
14. main()
15. {
16.     int choice;
17.     while (1)
18.     {
19.         printf("1.Insert element to queue \n");
20.         printf("2.Delete element from queue \n");
21.         printf("3.Display all elements of queue \n");
22.         printf("4.Quit \n");
23.         printf("Enter your choice : ");
24.         scanf("%d", &choice);
25.         switch (choice)
26.         {
27.             case 1:
28.             insert();
29.             break;
30.             case 2:
31.             delete();
32.             break;
33.             case 3:
34.             display();
35.             break;
36.             case 4:
37.             exit(1);
38.             default:
39.             printf("Wrong choice \n");
40.         } /* End of switch */
41.     } /* End of while */
42. } /* End of main() */
43.
44. void insert()
45. {
46.     int add_item;
```

```c
47.    if (rear == MAX - 1)
48.    printf("Queue Overflow \n");
49.    else
50.    {
51.        if (front == - 1)
52.        /*If queue is initially empty */
53.        front = 0;
54.        printf("Inset the element in queue : ");
55.        scanf("%d", &add_item);
56.        rear = rear + 1;
57.        queue_array[rear] = add_item;
58.    }
59. } /* End of insert() */
60.
61. void delete()
62. {
63.    if (front == - 1 || front > rear)
64.    {
65.        printf("Queue Underflow \n");
66.        return ;
67.    }
68.    else
69.    {
70.        printf("Element deleted from queue is : %d\n", queue_array[front]);
71.        front = front + 1;
72.    }
73. } /* End of delete() */
74.
75. void display()
76. {
77.    int i;
78.    if (front == - 1)
79.        printf("Queue is empty \n");
80.    else
81.    {
82.        printf("Queue is : \n");
83.        for (i = front; i <= rear; i++)
84.            printf("%d ", queue_array[i]);
85.        printf("\n");
86.    }
87. } /* End of display() */
```