

```
1 #include <stdio.h>
#include <stdlib.h>
#define MAX 5
int q[MAX], front = -1, rear = -1.

void insert(int num)
{
    if (rear == MAX - 1)
    {
        printf("Overflow condition");
    }
    else if (front == -1 && rear == -1)
    {
        front = 0;
        rear = 0;
    }
    else
    {
        rear++;
        q[rear] = num;
        printf("Insertion Completed Successfully");
    }
}

void deletion()
{
    int val;
    if (front == -1 || front > rear)
    {
        printf("Underflow condition");
    }
    else
    {
        q[front] = val;
        val = q[front];
        front++;
        if (front > rear)
        {
            front = -1;
            rear = -1;
        }
        printf("%d removed Successfully", val);
    }
}

void display()
{
    if (front == -1 || front > rear)
    {
        printf("Queue is empty. Underflow");
    }
    else
    {
        int i;
    }
}
```

```

        for(i = front; i <= rear; i++)
        {
            printf("%d\t", q[i]);
        }
    }
}

```

void main()

```

{
    int num, choice;
    while(1)
    {
        switch
        printf(" *** MENU *** ");
        printf(" Enter 1: INSERT /t 2: DELETE /t\n\n 3: DISPLAY /t 4: EXIT /t ");
        scanf("%d", &choice);
        switch(choice)
        {
            case 1: int num; printf(" Enter a value ");
                     scanf("%d", &num);
                     insert(num);
                     break;
            case 2: deletion();
                     break;
            case 3: display();
                     break;
            case 4: exit(0);
            default: printf(" Invalid input ");
        }
    }
}
}
}

```



Output :

**\*\* MENU \*\***

Enter 1: INSERT 2: DELETE 3: DISPLAY 4: EXIT

1

Enter the value to be inserted: 10

Insertion Successful.

**\*\* MENU \*\***

Enter 1: INSERT 2: DELETE 3: DISPLAY 4: EXIT

2

10 removed successfully.

**\*\* MENU \*\***

Enter 1: INSERT 2: DELETE 3: DISPLAY 4: EXIT

3

Queue is empty. Underflow.



C:\Users\tanma\OneDrive\Do



\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :1

Enter the number to be inserted in the queue : 10

10 inserted successfully

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :1

Enter the number to be inserted in the queue : 20

20 inserted successfully

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :2

The number deleted is : 10

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :2

The number deleted is : 20

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

4. EXIT

Enter your option :3

QUEUE IS EMPTY

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :2

UNDERFLOW

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :1

Enter the number to be inserted in the queue : 10

10 inserted successfully

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :3

10

\*\*\*\*\* MAIN MENU \*\*\*\*\*

1. Insert an element
2. Delete an element
3. Display the queue
4. EXIT

Enter your option :4

Process returned 0 (0x0) execution time : 66.560 s  
Press any key to continue.