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Batch: SY-IT
Roll No. 57

Experiment No. 01

```
#include <stdio.h>
int Q[100], front=-1, rear=-1, i, n, x, choice;
void insert();
void delete ();
void display();

void main()
{
    printf("WELCOME\n");
    printf("Enter the size of Queue (Maximum size = 100): ");
    scanf("%d", &n);
    do
    {
        printf("\n Queue Operation available: \n");
        printf("\t1.Insert \t2.Delete \t3.Display \t4.Exit \n");
        printf("\n Enter your choice: ");
        scanf("%d", &choice);
        switch (choice)
        {
            case 1:
                insert();
                break;
            case 2:
                delete ();
                break;
            case 3:
                display();
                break;
            case 4:
                printf("Program is Finished !! ");
                break;
            default:
                printf("Please enter a valid choice 1, 2, 3, 4 \n");
                break;
        }
    }
```

```
    } while (choice != 4);  
}
```

```
void insert()  
{  
    if (rear >= n - 1)  
    {  
        printf(" Queue Overflow ! \n");  
    }  
    else  
    {  
        printf(" Enter the element to insert: ");  
        scanf("%d", &x);  
        rear++;  
        Q[rear] = x;  
        if (front == -1)  
        {  
            front = 0;  
        }  
    }  
}
```

```
void delete ()  
{  
    if (front == -1)  
    {  
        printf(" Queue Underflow ! \n");  
    }  
    else  
    {  
        printf(" The deleted element is: %d \n", Q[front]);  
        if (front == rear)  
            front = rear = -1;  
        else  
            front++;  
    }  
}
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```
void display()  
{  
    if (rear < 0)
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```

{
    printf(" Queue is empty ! \n");
}
else
{
    printf(" The elements in the Queue are: \n");
    for (i = front; i < n; i++)
    {
        printf(" %d ", Q[i]);
    }
    printf("\n");
}
}

```

```

1 #include <stdio.h>
2 int Q[100], front=-1, rear=-1, i, n, x, choice;
3 void insert();
4 void delete();
5 void display();
6
7 void main()
8 {
9     printf("WELCOME\n");
10    printf("Enter the size of Queue (Maximum size = 100): ");
11    scanf("%d", &n);
12    do
13    {
14        printf("\n Queue Operation available: \n");
15        printf("\nEnter your choice: ");
16        scanf("%d", &choice);
17        switch (choice)
18        {
19            case 1:
20                insert();
21                break;
22            case 2:
23                delete();
24                break;
25            case 3:
26                display();
27                break;
28            case 4:
29                printf("Program is Finished !! ");
30                break;
31            default:
32                printf("Please enter a valid choice 1, 2, 3, 4 \n");
33                break;
34        }
35    } while (choice != 4);
36
37    void insert()
38    {
39        if (rear == n - 1)
40        {
41            printf(" Queue Overflow ! \n");
42        }
43    }
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```

```

d0419@tadmic:~$ gedit sanskr.c
d0419@tadmic:~$ gcc sanskr.c
d0419@tadmic:~$ ./s.out
WELCOME
Enter the size of Queue (Maximum size = 100): 100
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Enter the element to insert: 57
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Enter the element to insert: 63
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Enter the element to insert: 65
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Queue Overflow !
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 66
Please enter a valid choice 1, 2, 3, 4
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Queue Overflow !
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter the element to insert: 57
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Enter the element to insert: 63
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Enter the element to insert: 65
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 66
Please enter a valid choice 1, 2, 3, 4
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 1
Queue Overflow !
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 3
The elements in the Queue are:
57 63 65
Queue Operation available:
1.Insert      2.Delete      3.Display      4.Exit
Enter your choice: 4
d0419@tadmic:~$ gedit sanskr.c

```