

## Output:

### 1. First Come First Serve Algorithm:

```
"D:\Assignment && Lab\four" X + v
Enter the number of processes: 3
Enter process id of all the processes: 1
2
3
Enter burst time of all the processes: 15
4
9
Process ID      Burst Time      Waiting Time      TurnAround Time
1               15               0                15
2               4                15              19
3               9                19              28
Avg. waiting time= 11.333333
Avg. turnaround time= 20.666666
Process returned 0 (0x0)  execution time : 6.946 s
Press any key to continue.
```

### 2. Shortest Job First Algorithm:

```
"D:\Assignment && Lab\four" X + v
Enter number of process:3
Enter Burst Time:
p1:15
p2:4
p3:9
Process  Burst Time      Waiting Time      Turnaround Time
p2        4                0                4
p3        9                4               13
p1       15               13              28
Average Waiting Time=5.666667
Average Turnaround Time=15.000000
Process returned 0 (0x0)  execution time : 41.133 s
Press any key to continue.
```

### 3. Round Robin Algorithm:

```
"D:\Assignment && Lab\four" X + v
Total number of process in the system: 4

Enter the Arrival and Burst time of the Process[1]
Arrival time is:      0

Burst time is:  24

Enter the Arrival and Burst time of the Process[2]
Arrival time is:      0

Burst time is:  3

Enter the Arrival and Burst time of the Process[3]
Arrival time is:      0

Burst time is:  3

Enter the Arrival and Burst time of the Process[4]
Arrival time is:      0

Burst time is:  5
Enter the Time Quantum for the process:      4

Process No      Burst Time      TAT      Waiting Time
Process No[2]      3      7      4
Process No[3]      3      10      7
Process No[4]      5      19      14
Process No[1]      24      35      11
Average Turn Around Time:      9.000000
Average Waiting Time:  17.750000
```

### 4. Priority Scheduling:

```
"D:\Assignment && Lab\four" X + v
Enter the number of process:5
Enter Arrival time, Brust Time and Priority for process 1: 0 15 3
Enter Arrival time, Brust Time and Priority for process 2: 0 1 1
Enter Arrival time, Brust Time and Priority for process 3: 0 5 4
Enter Arrival time, Brust Time and Priority for process 4: 0 1 5
Enter Arrival time, Brust Time and Priority for process 5: 0 10 2

PName  Arrival-time  Burst-time  Priority  Waiting-time  Tat-time
2      0      1      1      0      1
5      0      10      2      1      11
1      0      15      3      11      26
3      0      5      4      26      31
4      0      1      5      31      32
Average waiting time is:13.800000
Average turnaroundtime is:20.200001
```

## 5. Producer Consumer Problem:

```
"D:\Assignment && Lab\four" × + ▾

1. Press 1 for Producer
2. Press 2 for Consumer
3. Press 3 for Exit
Enter your choice:2
Buffer is empty!
Enter your choice:1

Producer produces item 1
Enter your choice:1

Producer produces item 2
Enter your choice:1

Producer produces item 3
Enter your choice:2

Consumer consumes item 3
Enter your choice:1

Producer produces item 3
Enter your choice:2

Consumer consumes item 3
Enter your choice:2

Consumer consumes item 2
Enter your choice:1

Producer produces item 2
Enter your choice:2

Consumer consumes item 2
Enter your choice:2

Consumer consumes item 1
Enter your choice:2
Buffer is empty!
```

## Conclusion:

Hence, the objectives of the lab were successfully implemented.