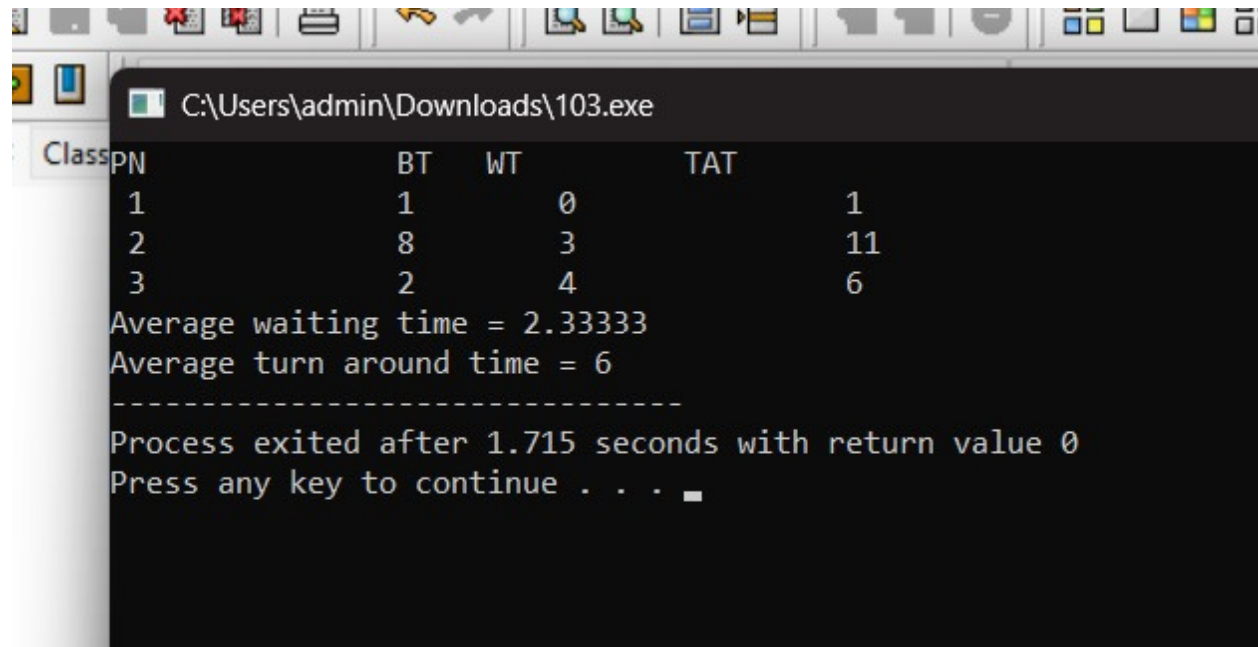


CT-353 Operating Systems

LAB 02

ROUND ROBIN CPU SCHEDULING ALGORITHM

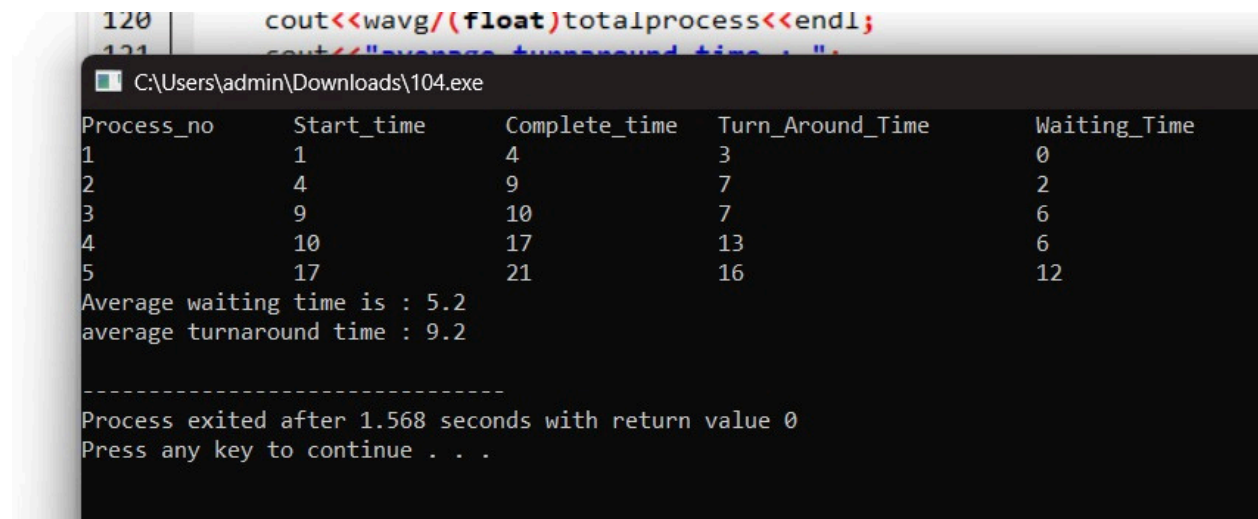


```
C:\Users\admin\Downloads\103.exe

ClassPN      BT   WT      TAT      1
1           1    0        1
2           8    3       11
3           2    4        6

Average waiting time = 2.33333
Average turn around time = 6
-----
Process exited after 1.715 seconds with return value 0
Press any key to continue . . .
```

PRIORITY CPU SCHEDULING ALGORITHM



```
120 cout<<wavg/(float)totalprocess<<endl;
121 cout<<"average turnaround time : ";

C:\Users\admin\Downloads\104.exe

Process_no    Start_time    Complete_time    Turn_Around_Time    Waiting_Time
1             1             4                3                   0
2             4             9                7                   2
3             9             10               7                   6
4             10            17               13                  6
5             17            21               16                  12

Average waiting time is : 5.2
average turnaround time : 9.2
-----
Process exited after 1.568 seconds with return value 0
Press any key to continue . . .
```

Execute all scheduling algorithms on following data and find out the Average Waiting Time and Average Turnaround Time of all scheduling algorithms and discuss your results. (Quantum Value is 3)

FCFS CPU SCHEDULING ALGORITHM

```
// Displaying results
cout << "C:\Users\admin\Downloads\105.exe"
cout << "FCFS Scheduling"
float Process Burst Time    Waiting Time    Turnaround Time
for (P0    2                0                2
     P1    6                2                8
     P2    4                8               12
     Average Waiting Time: 3.33333
     Average Turnaround Time: 7.33333
}
cout << "-----"
cout << "Process exited after 0.09211 seconds with return value 0"
cout << "Press any key to continue . . ."
main()
int p
int t
```

SJF CPU SCHEDULING ALGORITHM

```
W
C:\Users\admin\Downloads\105.exe
SJF Scheduling
Process Burst Time    Waiting Time    Turnaround Time
P0    2                0                2
P2    4                2                6
P1    6                6               12
Average Waiting Time: 2.66667
Average Turnaround Time: 6.66667
-----
Process exited after 1.969 seconds with return value 0
Press any key to continue . . .
```

PRIORITY CPU SCHEDULING ALGORITHM

```
load total wt = 0, total tat = 0;
or (int C:\Users\admin\Downloads\105.exe
total
total
cout
out <<
out <<
ain() {
nt proc
```

Priority Scheduling

Process	Burst Time	Priority	Waiting Time	Turnaround Time
P1	6	1	0	6
P2	4	2	6	10
P0	2	3	10	12

Average Waiting Time: 5.33333
Average Turnaround Time: 9.33333

Process exited after 2.005 seconds with return value 0
Press any key to continue . . .

ROUND ROBIN CPU SCHEDULING ALGORITHM

```
C:\Users\admin\Downloads\105.exe
```

Round Robin Scheduling

Process	Burst Time	Waiting Time	Turnaround Time
P0	2	0	2
P1	6	5	11
P2	4	8	12

Average Waiting Time: 4.33333
Average Turnaround Time: 8.33333

Process exited after 2.121 seconds with return value 0
Press any key to continue . . .

Conclusion

Different CPU scheduling algorithms prioritize processes differently. First-Come, First-Served (FCFS) processes tasks in order of arrival, which can delay longer tasks. Shortest Job First (SJF) prioritizes shorter processes, achieving the lowest average waiting time and turnaround time. Priority Scheduling prioritizes important processes, delaying lower-priority tasks. Round Robin scheduling promotes fairness through time slicing but may increase average waiting time for shorter processes, highlighting the trade-offs between fairness, efficiency, and responsiveness.