Process Scheduling Simulation Report

Overview

This project implements two CPU scheduling algorithms: **First-Come, First-Served (FCFS)** and **Round Robin (RR)**. The program reads a list of processes from a file, simulates execution, and calculates performance metrics.

Implemented Algorithms

1. **First-Come, First-Served (FCFS)**
    - Processes are scheduled in order of arrival.
    - Simple but can lead to long wait times for later processes.
2. **Round Robin (RR)**
    - Each process gets a fixed time slice (quantum).
    - Prevents starvation and ensures fairness.

Input Format

Processes are read from `processes.txt`:

```
PID  Arrival_Time  Burst_Time  Priority
1    0           5           2
2    2           3           1
3    4           2           3
```

Sample Output

```
Gantt Chart:
| P1 | P2 | P3 |
0    5    8    10

PID  WT   TAT
1    0    5
2    3    6
3    4    6
```

Challenges Faced

- Handling process arrival times correctly.
- Managing remaining burst times in Round Robin scheduling.

Conclusion

This project provided hands-on experience with process scheduling, reinforcing key operating system concepts.