## **Practical No. 5: FCFS (First-Come, First-Served) CPU Scheduling Algorithm**

### **Aim:**

To write a C program to implement the FCFS (First-Come, First-Served) CPU scheduling algorithm, calculating waiting time and turnaround time for each process.

### **Program Name: FCFS.c**

### **Key Concepts:**

* **FCFS Scheduling:** Processes are scheduled in the order they arrive.
* **Waiting Time (WT):** Time spent waiting in the ready queue.
* **Turnaround Time (TAT):** Total time taken from arrival to completion.

### **Program Code Summary:**

The program:

1. Takes input for arrival and burst times.
2. Sorts the processes by arrival time.
3. Calculates:  
   * Completion Time (CT)
   * Turnaround Time (TAT = CT - AT)
   * Waiting Time (WT = TAT - BT)
4. Displays each process’s data and averages.

### **Sample Execution:**

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Enter the number of processes: 4

Enter arrival time for process 1: 0

Enter burst time for process 1: 5

Enter arrival time for process 2: 1

Enter burst time for process 2: 3

Enter arrival time for process 3: 2

Enter burst time for process 3: 2

Enter arrival time for process 4: 4

Enter burst time for process 4: 1

Process Arrival Time Burst Time Waiting Time Turnaround Time

P1 0 5 0 5

P2 1 3 4 7

P3 2 2 6 8

P4 4 1 7 8

Average Waiting Time: 4.25

Average Turnaround Time: 7.25

### **Conclusion:**

The FCFS algorithm was successfully implemented. It calculates waiting and turnaround times based on arrival and burst times. The output validates correct CPU scheduling behavior as per the FCFS rules.