CS370 : Operating Systems

HW5 - Help Session
Assignment Review

Scheduling Algorithms

• First Come First Serve (FCFS)
• Priority Scheduling
• Round Robin
FCFS

- Non pre-emptive
- Schedules with respect to arrival time
- Process that arrives first gets the CPU burst until it is completed.

Note: If two processes arrive at the same time, select the process with lower process ID.
Priority Scheduling

- Pre-emptive
- Schedules with respect to the priority of process
- Among the arrived processes, process with higher priority gets the CPU burst until it completes the operation or higher process arrives.
- Lower number indicated higher priority

Note: If two processes have the same priority, the process that arrived first will get the burst. If arrival time is also same, select the process with lower process ID.
Round Robin

- For every process that arrives, allocate the specified quantum of time.
- When the quantum for a process expires, the next process in the queue gets the burst.
- If there are no processes in the queue, the current process continues execution till the next quantum of time.

Note: If two processes arrive at the same time, the process with lower ID enters the queue first.
Input File

- Format:
  \(<\text{PID}>,<\text{ArrivalTime}>,<\text{BurstTime}>,<\text{Priority}>\)
- Quantum is taken as command line input
Output

- Display the gantt chart as
  \[<PID> \quad <\text{StartTime}> \quad <\text{EndTime}>\]
- Print the average Waiting Time, Turn Around time and Throughput.
- **Waiting Time**: Amount of time from when a request was submitted until the response is produced.
- **Turn around Time**: Total time between the process arrival and completion of the process.
- **Throughput**: Time for each process to complete
Requirements

- Java should be used for coding.
- Code must run on the lab machines.
- Submit all the files as a single .tar file. (Makefile is not needed)
Questions?