CPU SCHEDULING ALGORITHMS

- **Decide the order of execution of processes when multiple are competing for system resources**
  - ✓Where – In the Ready State
  - ✓Who(se) Responsibility – Short Term Scheduler
  - ✓When - Run to Terminated ; Run to Wait ; Run to Ready ; Wait to Ready ; New to Ready (wherever there is queuing for the CPU!)
  - ✓Function – allocate CPU to process
  - ✓Goal – Increase CPU Utilization ; Increase Throughput ; Minimize Average Wait Time & Average Turn Around Time

SCHEDULING ALGORITHMS

- ✓Algorithms Discussion at the process level ; while kernel finally does at the thread level!
- ✓Two Types – Premptive and Non Premptive
- ✓Relate to Transaction Processing Concepts

Transaction is a Process and operations as instructions

- ✓Non Premptive – FCFS (First Come First Served), SJF (Shortest Job First), HRRN (Highest Response Ratio Next)
- ✓Premptive – SRT (Shortest Remaining Time Next), Round Robin,
- ✓Priority scheduling – Both premptive and Non premptive versions shall be explored

PARAMETERS OF INTEREST

- ✓Arrival Time (AT) - Time the Process comes to the Ready State
- ✓Burst Time (BT) – Execution time of the process – also referred as Service Time
- ✓Completion Time – Finish Time of the Process
- ✓TAT – Turn Around Time - Time required for an application (process) to give output to the end user
- ✓TAT = CT - AT or WT + BT ; {Wait Time}
- ✓Response Time – Time for the System to Respond to Process or User (First Response time on System Clock)
- ✓Time Since the Request is Submitted (AT) and the First Response Time