Scheduling

1. Process Scheduling
   - Goal: efficient utilization of resources
   - Context switch

2. CPU Scheduling
   - Performance metrics
     - CPU Utilization
     - Throughput
     - Turnaround time (response time)
       - Normalized Turnaround time: ResponseTime / BurstTime
     - Waiting time
   - Scheduling algorithms -- Non-preemptive
     - First-Come-First-Served (FCFS)
       - ReadyQ ordered by arrival time
     - Shortest-Job-First (SJF)
       - ReadyQ ordered by increasing burst length
     - Priority
       - ReadyQ ordered by priority #
   - Scheduling algorithms -- Preemptive
     - Preemptive Priority
     - Shortest-Remaining-Time-First (SRTF)
       - Preemptive SJF
     - Round-Robin (RR)
       - ReadyQ functions as circular queue
       - Time quantum \( q \): unit or slice of time (e.g. 100 msec)
       - Each process gets CPU in round-robin fashion for 1 quantum
       - New processes added to tail of ReadyQ
   - Scheduling algorithms -- Multilevel queue
     - Partition ReadyQ into separate queues
     - Feedback processes into appropriate queues