

CS 414 : Operating Systems

UNIVERSITY OF VIRGINIA
Department of Computer Science

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Topic 8.1: Real-Time Scheduling

- Real-time scheduling is priority-driven preemptive scheduling
- All jobs are assumed to be periodic (not always the case)
- Scheduling decisions are made
 - when any task arrives
 - when the processor becomes idle
- At each decision, the process with the highest priority is executed
- Processor is never left idle intentionally (greedy algorithms)

- Types of scheduling: static or dynamic

- Rate monotonic (RM)
 - Process with shorter period is assigned higher priority
- Earliest deadline first (EDF)
 - process with the earliest deadline is assigned the highest priority

- Example 1: A(2, 0.9), B(5,2.3)
- Example 2: A(2,1), B(5,2.5)
- Example 3: A(2,1), B(5,3)
- Example 4: A(2,0.8), B(5,3.5)