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# CPSC 457

# Lecture 7

Memory Management, Swapping and Midterm Review

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# Last Time

## Scheduling

- Round Robin
- Priority
- Multi Queue
- Multi Level Feed Back Queue
- Real World

## Memory Management

- Ideal Memory
  - Memory Hierarchy
    - Trade Offs
  - What happens with no memory management
  - Static Relocation
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# Today

## Memory Management

- Address Space
- Base and Limit Registers
- How do we store processes
- Swapping
- Free Memory Management

## Midterm Review

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# Review Prep

- Most Comfortable Concept
  
  - Least Comfortable Concept
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# Address Space

- Abstract Memory away from the real hardware
    - Dynamically Manage Memory Look ups
    - Abstract Address → Physical Address
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# Base and Limit Register

- For each process
    - Base Register
      - Physical Address of the beginning of the process
    - Limit Register
      - Length of the process (including text and data)
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**What to do with a process when  
we can't keep it in memory?**

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# Swapping

- Load all of a process's memory into main memory when it's time to run
  - Store all of the memory on disk when you can't keep the process in memory
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# Managing Free Memory

- Bit Map
  - Linked List
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# Memory Management With Linked Lists

- Space Finding Algorithms
    - First Fit
    - Next Fit
    - Best Fit
    - Worst Fit
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# Swapping

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# Midterm Review

- Most Comfortable Concept
  
  - Least Comfortable Concept
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**Break**

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# Midterm Review

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# Midterm Review

Monday, June 13, 2016

9:00am

60 minutes

100 marks, 21 questions

Up as far as Lecture 6

Lecture Resumes at 10:30

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