Operating Systems
CMPT 424

─Lab 6 ───

Goals

Memory protection with base and limit tracking
This active learning exercise will you help you make progress on the practical aspects of developing your operating system.

Instructions

1. Look at your *i*Project 3 functional requirements as Issues in GitHub as part of the "*i*Project 3" milestone and make sure that everything is in there.
2. Increase your memory from 256 bytes to 768 bytes. Be sure that you can map a memory partition number (0,1,2) to the appropriate base address (0, 256, 512).
3. Add to your Process Control Block as necessary to keep track of where a given process is held in memory.
4. Add memory protection fields (base and limit memory addresses) to your PCB.
5. Add other new features as specified in your Issues and *i*Project 3.
6. Test. (You should be really good at this by now. You better be!)
7. Read chapter 8.3 in the 8th edition of our text again.
8. Read chapters 14.1 and 14.3.3 in the 8th edition of our text.

Questions

1. What?
2. Why?

Resources

- http://lwn.net/Articles/250967/
- http://duartes.org/gustavo/blog/post/memory-translation-and-segmentation/
- Chapter 13 in http://pages.cs.wisc.edu/%7Eremzi/OSTEP/
- Chapter 15 in http://pages.cs.wisc.edu/%7Eremzi/OSTEP/

- Code to test memory limits:

A9 A9 A2 01 EC 13 00 AC 0B 00 8D F0 00 EE 0B 00 D0 F5 00 00

Grading

Your work on this lab will contribute to your grade for *i*Project3.

Submitting

Commit your work to your **private** GitHub account in an appropriately-named folder. Make sure to tag your commit messages with the Issue number they address.