

# Operating Systems

CMPT 424

## -Lab 6

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Goals	<b>Memory protection with base and limit tracking</b> This approximately one-hour active learning exercise will help you make progress on the practical aspects of developing your operating system.
Instructions	<ol style="list-style-type: none"><li>1. Add the <i>iProject 3</i> functional requirements as Issues in GitHub as element of an “<i>iProject 3</i>” milestone.</li><li>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).</li><li>3. Add to your Process Control Block as necessary to keep track of where a given process is held in memory.</li><li>4. Add memory protection fields (base and limit memory addresses) to your PCB as well.</li><li>5. Add other new features as specified in your Issues and <i>iProject 3</i>.</li><li>6. Test. (You should be really good at this by now. You better be!)</li><li>7. Read chapter 8.3 again.</li><li>8. Read chapters 14.1 and 14.3.3</li></ol>
Questions	<ol style="list-style-type: none"><li>1. What?</li><li>2. Why?</li></ol>
Resources	<ul style="list-style-type: none"><li>• <a href="http://lwn.net/Articles/250967/">http://lwn.net/Articles/250967/</a></li><li>• <a href="http://duartes.org/gustavo/blog/post/memory-translation-and-segmentation/">http://duartes.org/gustavo/blog/post/memory-translation-and-segmentation/</a></li><li>• Chapter 13 in <a href="http://pages.cs.wisc.edu/%7Eremzi/OSTEP/">http://pages.cs.wisc.edu/%7Eremzi/OSTEP/</a></li><li>• Chapter 15 in <a href="http://pages.cs.wisc.edu/%7Eremzi/OSTEP/">http://pages.cs.wisc.edu/%7Eremzi/OSTEP/</a></li><li>• Code to test memory limits: A9 A9 A2 01 EC 13 00 AC 0B 00 8D 14 00 EE 0B 00 D0 F5 00 00</li></ul>
Grading	Your work on this lab will contribute to your grade for <i>iProject3</i> .
Submitting	Commit your work to your <b>private</b> GitHub account in an appropriately-named folder. Make sure to tag your commit messages with the Issue number they address.