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ELEC 377 Lab 2 Testing Documentation

Testing “Hello World”

In order to test the “Hello World” part of this lab, the code from that point was pulled from the git into the VM. The code was then run and tested within the vm. The expected output was “Hello World”. This is the same as the output produced by the code when testing in this way. The code built without errors and produced the expected output, therefore; the code can be considered to be working correctly up to this point.

Testing Output for One Task

Testing of the PID and UID output was completed using the same process as testing of “Hello World”. The code was pulled and run through the vm command window. The output of this, was

```
PID   UID   VSZ   RSS
1     0     480   240
```

Which is the same as the expected output as shown in the lab instructions. Since both the expected and actual output of this part were the same, it was determined that the produced module was functioning as it should at that time.

Final Testing

Testing of the final code involved the same process as testing of the previous parts of the module. The output was produced through the VM and was debugged iteratively. In the initial test of the final code, it was noticed that the formatting was not as desired. This was corrected in the code and the module was rerun to produce the output formatted correctly. This output was then saved to the file “codeOutput.txt” found in the corresponding lab 2 repository. The next step of final testing was to produce the output of the ps command so that it could be compared to the lab 2 module output. This output was saved to the file “output.txt” located in this group’s lab 2 repository.

Comparing the output of the module developed for the lab and the kernel produced output, it was observed that they were not identical. However, all values except the final row were the same. This difference in the outputs was expected according to the lab 2 instructions and can be explained to show why these results indicate that the produced module is correct. The differences between the two output files is marginal and is reflected in only 1 value in each column. The different values in each output file are both correct and differ due to how memory is accessed and stored. The ps process is a built-in, multiprocessing system whereas the kernel module is an object file that contains the code written for this lab to extend the running kernel. Other than this last row of explainable differing values, the two outputs are the same, indicating that the module produced for this lab produces the correct output and therefore functions correctly.