

COMPSCI 3SH3 Winter, 2021

Student Name: Jatin Chowdhary

Student ID: 400033011

Date: January 29th, 2021

Lab 1 Report

Q1 - Jiffies

Module Description

The Jiffies kernel module creates a file, *jiffies*, in the *proc/* directory when it is loaded. Then, when the file is read, the current value of *jiffies* is retrieved and printed to the file. This occurs whenever the *jiffies* file is read (i.e., *cat /proc/jiffies*). The Jiffies value is retrieved from the *jiffies.h* header file, which is a library containing the value. For more information, please reference the source code files attached, namely *proc_jiffy.c*.

Most of the code was licensed from "Operating System Concepts - 10th Edition", under the GPL license, which allows end users the freedom to run, study, share, and modify the software.

Source Code

*proc_jiffy.c*¹, (*Makefile*¹)

¹Source code can be found in the standalone files attached.

Q2 - Seconds

Module Description

The Seconds kernel module creates a file, *seconds* in the *proc/* directory when it is loaded. In addition, the moment the Seconds kernel module is loaded, the current value of Jiffies is retrieved from *jiffies.h* and stored. Then, when the file *seconds* is read, (i.e., *cat /proc/seconds*), the following information is printed to the *seconds* file:

- Initial Jiffies
- Current Jiffies
- HZ
- Time Elapsed

The *Time Elapsed* value is the most important value here. It represents the time elapsed since the module was initially loaded and the moment the *seconds* file was read. The value outputted is measured in seconds. For more information, please reference the source code files attached, namely *proc_seconds.c*.

Most of the code was licensed from "Operating System Concepts - 10th Edition", under the GPL license, which allows end users the freedom to run, study, share, and modify the software.

Source Code

*proc_seconds.c*¹, (*Makefile*¹)

¹Source code can be found in the standalone files attached.