Drew Pulliam – DTP180003

Week 3 Essay

Reflection on APUE 1.1-1.6

These sections give a brief overview of the UNIX operating system. The UNIX architecture is all built around the kernel. The kernel is the software that controls the actual computer hardware, and other programs simply request access to this hardware through the kernel. The way for programs to request resources from the kernel is through system calls. These system calls can be made in several ways, most commonly through the shell. The shell is a command line interface that allows the user to access the kernel. Technically Linux is just the kernel, and GNU is the rest of the operating system, but it is typically all referred to as simply Linux.

Logging into a UNIX system is a simple as entering your username and password. The system will then check your password and username against a saved and encrypted file to make sure that they match and allow you to log on. There are then several different options of shells that can be used, most commonly Bourne, C, Korn, and TENEX C. There are many similarities between these shells, specifically Korn is considered a successor to Bourne and TENEX C is a successor to C.

The UNIX filesystem is simple, everything is a descendent of the root directory, which is denoted by simply “/”. When using a shell, there is a current working directory, and the user can specify file paths starting at the current working directory (relative pathname) or starting at root (absolute pathname).

Standard Input, Output, and Error are three different options that all shells have for programs running in them. If none are specified they all default to the command line, but users have the option to specify what they want these to be (typically text files). This allows a user to save a standard input as a file and not be required to retype it every time they want to run a specific program. It can also allow for easier access to program output and possible error messages.