Week 1 Discussion

**Explain the difference between a program and a process in a computer. What information makes up the process state?**

A program is a set of instructions codified into some machine readable instruction. An example would be an executable generated from source code. Or a shell script. Think the file or set of files that make up the applicaiton. The object that is created called helloworld.o once you compile your first "Hello World" c program. It does nothing more than take up disk space at this point. It has the potential to do many things but unless you run it, it just sits there.

A process is what happens when a program executes. The instantiation process differs in details from architecture to architecture but generally the program is loaded into memory and then the OS proceeds to start executing at the beginning. During the execution various other blocks of memory are allocated that capture the state of the process. This Stack, the current state of the process, defines where it is in executing the logic fo the running process, what variables hold what values, what hardware interaction through the bus is ongoing, etc, etc... It defines the state of the process.