**Assignment 4**

**CIS356** – Spring Term 2018

**Point Value**: 100 points

**Assignment Due Date**: **In class Tuesday, March 22, 2018**

**Submission Instruction**

Please submit your assignment 4 to your instructor in class on the due date and submit your hw4\_lastname\_firstname.pdf or .docx on Schoology.

**Description**

1. Is it really that bad to turn off a UNIX or Linux system with the power button on the computer case? What about unplugging the computer from the wall? Explain your answer. See if you can determine the likelihood of a bad outcome by doing Internet research. (**10 points**)
2. Please list the six major phases of system bootstrapping process (**6 points**)? You need to describe what each phase does? (**14 points**)
3. Please explain the concept of run levels. List the run levels defined on your Amazon Ubuntu server and briefly describe each? (**10 points**)
4. Assume that there is a program/executable file called “Create\_Directories.sh” at (/home/Ubuntu). The content of the script is the following:

#!/bin/bash

mkdir /home/ubuntu/directory\_one

mkdir /home/ubuntu/directory\_two

mkdir /home/ubuntu/directory\_three

mkdir /home/ubuntu/directory\_four

mkdir /home/ubuntu/directory\_five

Please show how you would use systemd, unit file, and target, to glue it into the system to run the script automatically at boot time. Assume that the system’s default target is *multi-user.target*. (**20 points**)

1. Please create two entries in the /etc/sudoers file:
   1. One entry that allows users *matt* and *lisa* to do everything like the root users on the machine named *mathcs*. (**10 points**)
   2. One entry that allows the group *labassistant* to kill jobs/processes and reboot the local machine. (**10 points**)

1. Please explain what is the traditional UNIX Access Control (**5 points**) and what is the Role-Based Access Control (**5 points**)
2. Why is it better to use command *sudo* rather thanlog in the *root account* for system administrative tasks. (**10 points**)