**Network Directory Services Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Spring 2017 Midterm Review**

Knowledge-Based

**Section A: Virtualization Concepts**

At this point you should have a good understanding of system architecture or specifically valid use cases of when to use virtualization and when to use container technologies, such as Docker.

The goal of this section is that you can prove your understanding of both areas we have studied.

Please review the weekly objectives for Week 1 through 6 and be able to provide answers to the ‘Big Questions’ sections on E360.

**Section B: Container Technologies**

In this section, you will be asked to demonstrate your knowledge about interacting with Docker via the command line utility, how it works, and how it might be a better solution than using a fully featured VM.

Review the Docker documentation website to get a feel for how to search for software utilities, downloading them, and then running them. You may also be asked to build your own container, so prepare accordingly.

**Section B: Scripting Concepts**

You should be able to write a very basic BASH or Powershell script. Criteria of what the script needs to contain will be provided. However, the expectation here is that you will need to do your own research of what commands you need to run. This is an important skill that is expected by current and future employers you will work for.

Scenario-Based

You have recently been hired on as the new system administrator of Network Directory Services. The previous administrator was completing the following tasks manually:

* Manually adding users one by one. Felicia, the IT Manager, emphasized that the previous person spent far too much time on onboarding new users. Felica has asked you to find a way to automate the process.
* The company is seeking to meet industry compliance, such as HCI and HIPA, but the previous person didn’t have a way of collecting/audit system information in a timely fashion. You have been asked to collect some information (date, users on system, system services that are running, etc) in a standardized way.
* The previous person was managing 6 server computers, which were ordered by Dell about 5 years ago. Every morning, they would have to be rebooted one by one, because some of the services would stop working or users would inform IT that they were running extremely slow. The executive team has indicated that they would like IT to modernize its practices and to explore the possibility of using virtualization or a cloud-based solution. Felica would like you to research and provide better alternatives to the current system and processes.