# CS265: Advanced Programming Tools and Techniques

***Lab #1***

**Purpose**

The purpose of this lab is to familiarize you with the Linux servers tux.cs.drexel.edu.

**Login and setup up**

An account on the CCI Unix computers tux.cs.drexel.edu (tux) has been created for you. Use the instructions below to connect (login) to tux

<http://www.cs.drexel.edu/Account.php>

You will need to connect to and do all your work on tux.cs.drexel.edu.

Tux is a farm of Linux servers and when you connect to it, you are assigned one of the servers (could be a different one each time).

After login, create a directory structure for this assignment and lock it. Then go to the directory you have created.

mkdir cs265

chmod 700 cs265 /\* this locks the directory so only you have access \*/

cd cs265

mkdir lab1

cd lab1

**Linux**

As you perform the tasks below in tux, create a text file in your own computer, your lab report, named **lab1.txt**. For this lab, there is no reason to create the text file on tux (since we don’t know how to do this yet), but you should execute all questions on tux to ensure correctness. Do not execute the commands on your own computer, even if you have a Linux shell, because of the potential differences and inconsistencies among Linux versions. When answering a question, you should include something like this in your lab report, clearly indicating the question for which you are answering and your answer.

# This is for Q1

Your answer for Q1

# This is for Q2

Your answer for Q2

…

Now the questions:

Q1 - Create the following (empty) files. Write the command(s) you used to create the files in your lab report.

cardinal

cat

dog

eagle

elephant

robin

Q2 - Show the command to list the contents of the current working directory.

Q3 - Show the command to rename file eagle to dove.

Q4 - Show the command to delete the file name elephant.

Q5 – Show the commands to create two subdirectories, one named mammals and another named birds. Show the commands to move the appropriate files to the corresponding directory.

Q6 - Show the command to show all files in the birds directory

Q7 – Go to the birds directory. Execute the command ls -a. What do you see? .

Q8 – Show the commands to go to the parent directory and show its name. Write the name of the current directory to the report

Q9 - What are the default permissions for the directory birds and for the file birds/cardinal?

Q10 – Specify a command that gives everybody permission to write the directory mammals but does not change any other privileges. Note: When we started, we locked access to the current directory lab1. For answering this question and the ones following, assume that group members and others have access to the working directory. Do not open access to the working directory to others however, as they would be able to see and copy your work.

Q11 – Go to the mammals directory. Specify the command that permits the owner and the other members to read and execute the file cat, while removing all privileges from the group.

Q12 – Specify a command that removes all privileges from anyone but the owner of the file cat.

Q13 – Specify a single line command that gives the owner and the group permission to execute the file cat, while giving the owner sole permission to read and write the file. Remove permission of others to execute.

Q14 – Specify a single line command that gives the owner and group permission to execute the file cat while giving the owner sole permission to read and write the file. Do not change any other permission, i.e., do not remove permission from others to execute the file, if they already have that permission.

Q15 – File/directory permissions are subject to permissions of the parent directories. For example, consider the file /home/dv35/cs265/lab1.txt. If I wanted to allow others to read that file, then I would give 644 permission to the lab1.txt file, so that the group and others have read permission on that file, white the owner has read/write permissions. But that would not be enough. Each directory in the path must have appropriate permissions too. The home directory /home already has 755 permissions. Use the command

ls -ld /home

to verify. What permissions do we need to give to /home/dv35 and /home/dv35/cs265 directories, so others have permission to visit it?

**What to submit**

Submit your answer in Blackboard by the deadline.

1. Upload your Unix lab report lab1.txt from your computer to Blackboard.
2. Your file name should be lab1.txt, although submitting a different filename, in a text format, will not cost you any points.
3. However, do not submit different file formats: no PDF, no md, no docx, no jpg, or other versions. Plain text is all we want.