

Problem Set 5: Introduction to Linux

70 points

Version 1.0

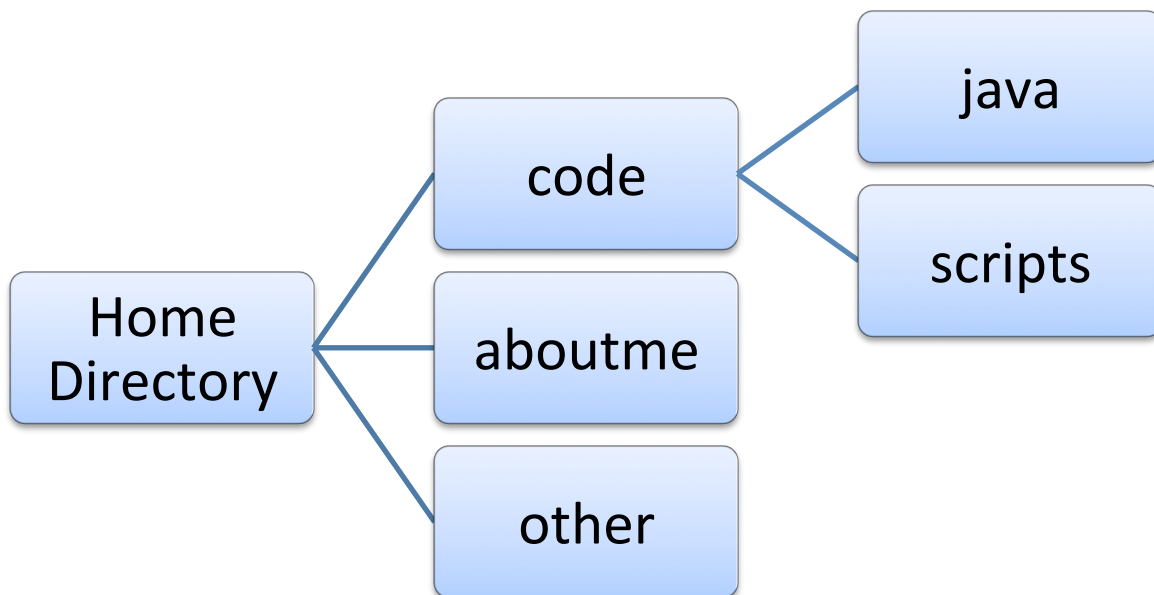
due Wednesday, 5 November 2015, by 5:00 P.M. CT

Review the following assignment in its entirety prior to beginning. This must be completed on an individual basis.

Linux Basics

Before you begin, be sure that you carefully follow the instructions. Remember, Linux is case-sensitive.

1. In your home directory, create the following folders:



2. In the `/home/<your_user>/aboutme` directory, create a new file called `aboutme.txt`. The contents of the file should include the following:

```
Name:          <Your Name>

Major:         <Your Major>

Hobby:         What is your favorite hobby?
```

3. Copy the `aboutme.txt` file into the **other** folder.
4. Next, run the command `mackey`. This will create four files in your home directory: `file1.txt`, `file2.txt`, `file3.txt`, and `file4.txt`.
5. Edit `file1.txt` and change `AMACKEY` to your username. Move (not copy) this file to the `aboutme` folder.
6. Edit `file2.txt` by selecting which operating system is your favorite. Move (not copy) this file to the `aboutme` folder.
7. Move (not copy) `file3.txt` to the **other** folder.
8. Delete `file4.txt`.
9. To save the output of some command to a file, simply use “`> /path/to/some/file`” at the end of a command. For example, `date > /home/amackey/test.txt` will display the date and time and save it to the file `/home/amackey/test.txt`. If the file does not exist, it will create it. If the file does exist, it will be replaced with the new output from the command you specified. If you want to append to the end of an existing file rather than replace everything, you can use the `>>` symbols (e.g. `date >> /home/amackey/test.txt`).

Append the output from the “`date`” command to `file1.txt` and `file2.txt`.

10. Copy the files from `/home/amackey/enterprise/java` into your `code/java` directory. This should copy two files: `LoopExample.java` and `Test.java`.
11. Navigate to the `code/java` directory in your home directory.
12. Display the contents in this directory. You should see two files with an extension of `.java`. This represents Java source code that is human-readable, but not by a computer or server. In order to execute this, we need to use the Java compiler (`javac`) to convert the source code into machine-readable code called byte code.

To do this, type `javac filename.java` for both files in the `code/java` directory (e.g. `javac LoopExample.java`).

13. Display the contents of the directory. You should see a total of four files: two `.java` files and two `.class` files.
14. You can now run the two programs by typing `java ProgramName` (e.g. `java LoopExample`). Run `LoopExample` and save the output to the **other** directory as `"javaloop.txt"`.
15. Edit the `javaloop.txt` file and remove the contents of Line 1, Line 3 and Line 5. Save your changes. What do you think about this editor compared to the ISPF editor?
16. Return to your home directory by typing `cd ~`
17. Next, save the output from the `"tree"` command to the **other** directory as `"files.txt"`.
18. Go into the **other** directory and print the contents of `"files.txt"` by using the `cat` command. Copy and paste the output into a Microsoft Word document for submission.

Linux Scripting

1. Log into MySQL and create the table `EMPLOYEE` with the following columns:

<code>EMP_ID</code>	<code>EMP_FIRST_NAME</code>	<code>EMP_LAST_NAME</code>
<code>INTEGER</code>	<code>VARCHAR(25)</code>	<code>VARCHAR(25)</code>

2. Insert the following records into the table:

<code>EMP_ID</code>	<code>EMP_FIRST_NAME</code>	<code>EMP_LAST_NAME</code>
1	Andrew	Mackey
2	<Your First Name>	<Your Last Name>
3	Sally	Smith

3. Write a script named `"uaemployee.sh"`. It should perform the following functions:
 - a. Display the menu system (provided below)

- b. Add a new employee by prompting the user for an employee ID, first name and last name
- c. Delete an existing employee by prompting the user for an employee ID
- d. Display a listing of all the employees in the system

```
*****
*   Welcome to the University of Arkansas Employee Management System!   *
*****

      designed by Andrew Mackey

Please choose from the following options:

    1) Add a new employee
    2) Delete an existing employee
    3) Display employee report

Enter your selection:
```

You should repeat this process until the user enters 999 at which time the program should terminate. Also, in the event that something is unsuccessful, you should notify the user that the operation did not complete successfully.

After an employee is added or deleted, you should show the user how many employees are in the system. An example of the output is as follows:

```
+-----+
| EMPLOYEES_IN_SYSTEM |
+-----+
|                      2 |
+-----+
```

Deliverables

You will be responsible for delivering the following items:

1. Output from the “files.txt” listing saved as a Word Document for submission.
2. Code from script file saved as **Student_Name_uaemployee.sh**.
3. Provide a few screenshots that demonstrate working functionality of the script saved in Microsoft Word or PDF format. At the bottom of the screenshots, include the path to your file (e.g. /home/amackey/uaemployee.sh).

Deliverables

You will be responsible for delivering the following items:

4. Output from the “files.txt” listing saved as a Word Document for submission.