CSC424 System Administration
Lab Assignment 4

Due on 04/27/2017 11:59PM

Requirements

In this lab assignment, you are asked to write bash scripts to solve five different problems. For each problem, you need to write a program in a separate script.
Deliverables: you need to submit **five scripts** to blackboard as a zip file to blackboard. In your report, you need to include all the source code of your programs as well as the screenshots for program execution.
Grading: 2 points for each problem

Problems

Please write scripts to solve :

1. **Display account names**
   Write a script that print out all the users account name on the screen. You need to extract information from /etc/passwd file. Your output should follow the format: "Account No. $lineNo : $accountName"

2. **Timer**
   Write a script that countdown the time. The script should take 1 argument as input. The argument specifies how many seconds you set for your timer.

3. **Pig Latin**
   Write a program that accepts a sentence as input and converts each word to "Pig Latin." In one version, to convert a word to Pig Latin you remove the first letter and place that letter at the end of the word. Then you append the string "ay" to the word. Here is an example:

   English: I SLEPT MOST OF THE NIGHT

   Pig Latin: IAY LEPTSAY OSTMAY FOAY HETAY IGHTNAY

4. **Word Separator**
   Write a program that accepts as input a sentence in which all of the words are run together but the first character of each word is uppercase. Convert the sentence to a string in which the words are separated by spaces and only the first word starts with an uppercase letter. For example the string "StopAndSmellTheRoses." would be converted to "Stop and smell the roses."

5. **Backup Files**
   Write a bash script to backup files. The script can take 0, 1 or 2 arguments. When there are 0 or more than 2 arguments, the script should print out the usage of the program on the screen. When there is 1 argument, the program should take the argument as source directory and backup all the files (not include directories) in the source directory. If the source directory does not exist, the program should print out the error message and the usage of the program on the screen. If the source directory exist, create a subdirectory inside source directory named "backup-yyyy-mm-dd" and copy all the files in source

directory into this subdirectory. When there are 2 arguments, the program should take the first argument as source directory and the second argument as target directory. Your program should exam the existence of both directories. Make a subdirectory named "backup-yyyy-mm-dd" and copy all files from source directory to this backup directory.