CS2750 **System Programming and Tools**
Assignment # 4 Due Date: March 28, 2018

Sed and Awk

Write the code in `bash` using sed and awk. Make sure that temporary files, if any, are removed in the event of an interrupt. You *must* use GIT to keep multiple versions of your assignment.

Submit all the code and any data files electronically. Write the code in `bash`. Make sure that temporary files, if any, are removed in the event of an interrupt.

A system administrator has to create new accounts for users. The usernames should be meaningful and easy to remember. So, to aid in decision making, we will use the following policy to create user names, and go down the list stopping at the first useable username. Make sure that there are no duplicate user names and no user name is more than 8 characters long. If the name is longer than 8 characters, make sure you truncate it to 8 characters. Example is with the name John Smith.

1. The last name of the person. `smith`.
2. The first name of the person. `john`.
3. First initial + last name. `jsmith`.
4. First name + last initial. `johns`.
5. Last name + first initial. `smithj`.
6. First initial + last name + two digit number. `jsmith01`. Increment the number in successive iterations. If the last name is too long, truncate it to five characters; for example, James Johnson (in this step) will get user name as `jjohns01`.

Use the file `delmar:~sanjiv/cs2750/names` as input. Create an output file from your script. Account for duplicate names; there can be two persons with the same name. However, there are no two persons with same user name. You are welcome to use a smaller file for testing purposes.

Names in input file are in the following formats:

```
last_name, first_name
first_name last_name
```

Ignore any special characters. If there is a middle name, ignore it. Remove any special characters from the name. Make sure the usernames are all in lower case.

Output file will be in the following format:

```
first_name  last_name  username
```

The three columns should be properly lined up. The first two columns will have the names in the form John Smith, i.e., put the names in proper case with first character in capital and the remaining characters in lower case.

At the end of the report, give a break down of the number of collisions at each step (if joe smith and john smith both want jsmith), the number of exact matches in the given name, and the number of names that could not be resolved. Include an option where I should be able to generate a user name for a single user on command line, and where I should be able to add a set of users to the system.

If a name is spelled in all upper case, make it look pretty. For example, `JOHN W. SMITH` should appear as `John Smith`.

Submission

Create a directory *username*`.4` in your home where *username* is your user name on delmar. Keep all programs and datafiles for this assignment in this directory.

You do not have to submit any hard copy of the code. Write the code in `bash` using `delmar`. Follow good programming principles and document your scripts well. Do not forget to take care of issues that can cause a wrong utility to execute than the one you intended.

After you are done with the assignment, execute the following commands:

```
% cd
% chmod 755 ~
% ~bhatias/bin/handin cs2750 4
% chmod 700 ~
```