# CSE 4251: Lab 5

Lab 5 is about using ***sed*** and ***awk*** command. Please do the lab 5 independently. Here are references for the [sed](https://www.gnu.org/software/sed/manual/sed.html) and [awk](https://www.gnu.org/software/gawk/manual/gawk.html) commands.

# Exercise 1

The ***databook.txt*** file is used in this exercise. This file is just an example does not reflect any real person. Each line represents an entry of a fictional employee. There are five fields separated by the “:” symbol in each line. The five fields are full name (in the format of first name followed by a blank and then last name), phone number, address, birthday (in the format of “month/day/year”), and salary.

Write a ***sed*** script which will process the ***databook.txt*** file. This sed script should do the following tasks:

1. Find the line whose first name is “Jon” and replace the first name “Jon” to “John”.
2. Find the line which first name is “Popeye” and change the birthday to 11/14/46.
3. Remove the employee entry (entries) whose salary (salaries) is greater than 80000. There can be multiple entries whose salaries are greater than 80000.
4. Modify the first field of each employee entry as the format of “last name, first name”. An example is like the following:  
   Blenheim, Steve:238-923-7366:95 Latham Lane, Easton, PA 83755:11/12/56:20300
5. Insert a title named as PERSONNEL FILE before the first line. The title should be a single line.
6. Append \*\*END OF FILE\*\* after the end of the file.

The ***sed*** script should be a single file. The ***sed*** script should be able to be executed using  
sed -i -f sed\_script\_file databook.txt  
where sed\_script\_file is the name of the ***sed*** script. The above command should overwrite the original ***databook.txt*** in place.

# Exercise 2

The ***donations.txt*** file is used in exercise 2. This text file records fictional donors’ information for a fictional campaign. Each line represents a donor and has five fields separated by “:” symbol. The five fields are donor’s full name, phone number, donated amount in dollars in January, donated amount in dollars in February, and donated amount in dollars in March.   
  
Write an ***awk*** script which takes the ***donations.txt*** as input and output a formatted table for the donors. The ***awk*** script should also output the followings:

1. Total donation amount for each donor from January to March.
2. Total donation amount in each month.
3. Total donation amount in the first quarter from all donors in the ***donations.txt*** file.
4. Average donation amount per donor in the first quarter.

An example of the output can be as follows:

CONTRIBUTION REPORT

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NAME | PHONE |  | Jan | | | Feb | | Mar | | Total Donated |  |
| Mike Harrington | (510) | 548-1278 | 250.00 |  | 100.00 | 175.00 | 525.00 |
| Christian Dobbins | (408) | 538-2358 | 155.00 |  | 90.00 | 201.00 | 446.00 |
| Susan Dalsass | (206) | 654-6279 | 250.00 |  | 60.00 | 50.00 | 360.00 |
| Archie McNichol | (206) | 548-1348 | 250.00 |  | 100.00 | 175.00 | 525.00 |
| Jody Savage | (206) | 548-1278 | 15.00 |  | 188.00 | 150.00 | 353.00 |
| Guy Quigley | (916) | 343-6410 | 250.00 |  | 100.00 | 175.00 | 525.00 |
| Dan Savage | (406) | 298-7744 | 450.00 |  | 300.00 | 275.00 | 1025.00 |
| Nancy McNeil | (206) | 548-1278 | 250.00 |  | 80.00 | 75.00 | 405.00 |
| John Goldenrod | (916) | 348-4278 | 250.00 |  | 100.00 | 175.00 | 525.00 |
| Chet Main | (510) | 548-5258 | 50.00 |  | 95.00 | 135.00 | 280.00 |
| Tom Savage | (408) | 926-3456 | 250.00 |  | 168.00 | 200.00 | 618.00 |
| Elizabeth Stachelin | (916) | 440-1763 | 175.00 |  | 75.00 | 300.00 | 550.00 |
|  |  |  | 2595.00 |  | 1456.00 | 2086.00 | 6137.00 |
|  |  |  |  |  |  |  |  |  |
| Summary |  |  |  |  |  |  |  |  |

Total received: $6137.00.

Average donation per donor: $511.42.

The ***awk*** script should be in a single file. The script should be able to be executed using  
awk -f awk\_script\_file donations.txt

where awk\_script\_file is the name of the ***awk*** script. The above command should not modify the original ***donations.txt*** file and should just print the output in the screen.

# Submission Instructions

You may add a separated ***Readme.txt*** file to explain how the scripts work in exercise 1 and 2. To submit, create a single zip file which contains the following files:  
A sed script file from exercise 1.  
A awk script file from exercise 2.  
An optional ***Readme.txt*** file.