**Comp311 Final Project (Fall\_17\_18) due: Thur. 4/1/2018 by 12:00 Noon**

Write a shell script called ***admin*** that will do the following:

Take a *filename* as the first argument. The file includes *add* and *del* requests for adding or deleting ***simulated*** accounts on your system in the following format:

add:id#:firstname\_lastname (e.g. add:1234:ahmad\_hamdan) or

del:id#: (e.g. del:1234: )

Your script should first remove any pre-existing accounts and then check each add/del request in the given file for the correct format (as specified below) and add or delete the account specified by that request.

The id# in an add or del request should consist of exactly four digits.

The full name may consist of any characters, but the first name should have a letter as the first character with a minimum of 3 chars and the last name should have a letter as the last character and should have a minimum of 4 chars.

Your ***admin*** script should call ***at least*** the following modules:

***add****: The information for an add request is passed to this module where it is checked for the correct format. If there is a problem with the format, the request should be denied with the proper and specific error message (e.g. problem with id or problem with name, …). Requests to add users with an already existing id # should be denied. In case the information is in the correct format, add should create a username for the new user which consist of the first letter of the first name followed by the second and* ***third*** *digits of the id followed by the last letter in the last name (e.g. for id 1234 and name ahmad\_hamdan, the username should be a23n). In case created user name already exists, your script should automatically keep adding 1 to the number in the middle until it is unique (i.e. if a23n already exists then the username used is a24n and if that exists then the username used is a25n and so forth until a unique name is created). A message should be displayed for successful adding indicating that the user is added with the username as follows:*

*added: a24n*

***del****: The information in the delete request should be passed to this module where it is checked for the correct format. If there is a problem with the format, the request should be denied with the proper and specific error message. If no account with the specified id exists then a proper error message should be displayed. If the id exists then the account should be deleted and a proper message should be displayed to as follows:*

*deleted: a24n*

At the end of adding/deleting the accounts requested in the file (first argument) your script should then display all the remaining accounts. The user **must** either specify the word ***id*** or the word ***name*** as a second argument to the *admin* script. The argument ***id*** indicates that the user wants the information about user accounts to be displayed sorted (in ascending order) by the id numbers while the argument ***name*** indicates that the information displayed should be sorted (in ascending order) based on the first name of the users. In all cases the information displayed should be the username followed by the user id followed by the first and last names separated by spaces (***all on one line***).

Your program should check and indicate any problem with its arguments (e.g. non existing requests file or unknown sorting argument) and should not proceed unless it is given exactly two arguments in the formats specified above.

**Example of sample runs:**

1. admin wrongfilename id

wrongfilename: No such filename

1. admin correctfilename named

named: No such option

1. admin correctfilename

usage: admin filename sortcriteria

1. admin correctfilename id

**Assuming that *correctfilename* has the following requests:**

del:1234:

add:2234:ahmad\_567b

add:1235:amjad\_sahib

del:123:

ad:a345:ahmad\_hamdi

del:1235:

add:1111:ahmad\_hamde

add:2234:salma\_subhi

add:2128:salma\_subhi

**Then the following should be the output of your script(s) (each line result or error should be displayed in one line as shown below):**

1234: No such id number

added: a23b

added: a24b

123: No such id number

ad: unknown option

deleted: a24b

added: a11e

2234: User id already exists

added: s12i

User information sorted by id is:

**a11e 1111 ahmad hamde**

s12i 2128 salma subhi

a23b 2234 ahmad 567b

***Be sure to use the same names for your shell script(s) and arguments as given above and to make your shell script(s) as modular as possible. Also, be sure to include any error checking necessary.***

***Be sure to have your script(s) ready by the due date and time in the finalproject\_youruserid (e.g. finalproject\_u1161111) directory under your system home directory . Any students working together on any part of this project will receive a zero grade for the whole project.***

***No projects will be accepted after the due date and ti****m****e* Thursday 4/1/2018 (by 12:00 Noon)*. No Exceptions.***

***Projects will be passed off only from the server ( 172.16.2.90). No pass offs will be done from the students’ laptops or any other media.***