Assignment Three (20 pts)

Part One
In this part you will write a shell script that retrieves data from the user sitting at the keyboard. Your shell script will do this by prompting the user with a text message and then using the read command to read a value into a variable. Space permitting, the user's input and prompt should be on the same line.

Description
The ABC Co. stores a table of the managers of each of its departments in a file called Managers This file contains records of the form
Joe Worker:489:14:Manufacturing
Where:

- the first field contains the manager's name.
- the second field contains the manager's id
- the third field is the department number
- the last field is the department name.

You may assume there is at most one record for any given department, so long as this assumption is documented.
The Managers file may be found in the directory /pub/cs/jstrick2/cs160b/asmt03
(hills)

Procedure
Your task is to write an interactive shell script to one or more new managers to the Managers file. Name your shell script newmanager
.
You should assume that administrative personnel of the ABC Co. will be using your shell script. It must behave in a fashion so that they can understand it and use it effectively. Your shell script should do the following.

1. When your shell script begins, it needs the file Managers. If a copy of the file exists in the current directory, it should use it. Otherwise it will copy it from the standard source directory on either hills or linux, depending on which system you are on. To make the location of this file easy to change in the future, it must be parameterized using a variable. Set a variable for the source directory at the beginning of your shell script and use it if you need to copy the file: Sourcedir=/pub/cs/jstrick2/cs160b/asmt03 then copy the source file from Sourcedir using $Sourcedir/Managers

If you have your own linux system, feel free to place a copy of the Managers file on it and change the path above so that it works on your linux system. The path, however, must be absolute, and must work for any user. (Online students: unless you have your own linux system, this is just for practice, as you don't have an account on our classroom linux systems. Just use the code above.)

The usability of the file Managers is crucial to the functioning of your shell script. Before you continue, you must ensure that the Managers file exists and that you have appropriate

permissions to it. If this is not the case, this is a fatal error - you should exit with a failure exit status and a message indicating the problem.

2. You will now enter new records into the Managers file until the user is finished: (note that this requires a loop!)
   a) Prompt the user to enter the department number.
   b) Check to see if the Managers file contains a record for this exact department number. Be careful when checking - you must ensure that the department number is matched exactly (i.e., if you are looking for 2 , you do not want to find a record for 200) and that you don't match data in other fields of the record instead. If a record for the indicated department already exists in the Managers file, print a message and ask for another department number.
   c) Retrieve values for the department's name, the manager's name, and the manager's employee ID from the user. Your shell script should accomplish each of these by printing a prompt and reading a value.
   d) Use the information retrieved from the user to create a new record in the format above. Append it to the Managers file.
   e) Devise a way for the user to indicate (s)he is finished inputting new departments.

3. Sort your Managers file numerically by department number saving the sorted version in place of the old version. Display the sorted version with an appropriate message. Sample output of my version of the program can be found in the asmt03 directory.

Script session
Create a standard script session to submit with the shell script. In the script session, first delete the Managers file from the current directory. Then perform the following runs in order:

- a run to add Department number 5
- a run of your shell script when a new department of your choice is added
- a run specifying an existing department of your choice.

Although this is sufficient testing in the script session, do some more tests yourself! Part of your grade for this shell script will be based on how robust it is and whether you follow good shell-scripting practices in your code.