**Comp311 Project Two (*Due midnight Wednesday 15/12*)**

**Question 1:**

**On your system, write the commands to do each of the following and save the number of each question as well as the answer to that question (commands, …) to a file called *Question1\_answers*. *You MUST also take screen captures or images clearly showing the commands that you executed on your system for each of the questions below as well as whatever results were displayed on the screen. The screen captures or images should be included in sequence in a Word file called Question1\_images.***

1. Use the find command to compile a list of all directories in the system, redirecting the output so that the list of directories ends up in a file called directories.txt and the list of error messages ends up in a file called errors.txt. Command(s)? find / -type d > directories.txt 2> error.txt
2. Try the command sleep 5. What does this command do?

Pause for NUMBER seconds.

1. Run the command sleep 5 in the background using &. Command?

sleep 5&

1. Run sleep 80 in the foreground, suspend it with Ctrl-z and then put it into the background with bg. Type jobs. Type ps. Bring the job back into the foreground with fg. Commands?
2. Run sleep 40 in the background using &, and then use kill to terminate the process by its job number. Repeat, except this time kill the process by specifying its PID. Commands?
3. Run sleep 40 in the background using &, and then use kill to suspend (stop) the process. Use command bg to resume running the process.
4. Startup a number of sleep 80 processes in the background, and terminate them all at the same time using the pkill command.
5. Create a variable called ***myprj2var*** in your current bash shell with value ***“good”.*** Run the ksh shell under your bash shell and make sure that var ***myprj2var*** is passed from bash to ksh. Commands?
6. Add the directory /etc to the beginning and end of you current PATH. Display your updated PATH variable value on the screen.

**Question 2:**

**Using the given *prj2\_passwd* file, use your system to write a *single* command to do each of the following (Write the number of the question as well as the answer to a file called *Question2\_answers*). *You MUST also take screen captures or images clearly showing the commands that you executed on your system for each of the questions below as well as whatever results were displayed on the screen. The screen captures or images should be included in sequence in a Word file called Question2\_images.***

1. Display the login names (e.g. u1163456) of all users whose first name is Mohammad (all cases).

grep -i mohammad\_ prj2\_passwd | cut -d: -f1

1. Display the first names of all users with comp322 as part of their home directory sorted by the numerical value of their user id numbers.

grep comp322 prj2\_passwd | sort -k3 -t: -n | cut -d: -f5 | cut -d\_ -f1

1. Select all the users with first name Mohammad (all cases) and change their first names to Mahmoud and save their entries (lines) to a file called Mahmoud\_passwd.

grep -i mohammad\_ prj2\_passwd | sed 's/mohammad/Mahmoud/i' > Mahmoud\_passwd

1. List the full names ( first + last separated by a space) of the three users before the last two users in the file.

tail -5 prj2\_passwd | head -3 | cut -d: -f5 | tr "\_" " "

1. Using the sort command, remove all duplicate lines from the file prj2\_passwd and save the result to a file called cleanprj2\_passwd.

sort -u prj2\_passwd > cleanprj2\_passwd

1. List the last names (all in capital letter) sorted in descending order of all users with login names that do NOT start with u116.

grep "^u11[^6]" prj2\_passwd | cut -d: -f5 | cut -d\_ -f2 | tr "a-z" "A-Z" | sort -r

1. List the number of users that have a login name that starts with u116.

grep "^u116" prj2\_passwd | wc -l

1. Change the shell of all users with ksh as their shell to bash and save their entries (lines) to a file called ***oldkshusers***.

grep "ksh$" prj2\_passwd | sed 's/ksh/bash/' > oldkshusers

You need to ***reply to the coordinator’s message on Ritaj by the due date and time*** and attach the following four files:

***Question1\_answers***

***Question1\_images***

***Question2\_answers***

***Question2\_images***

***Projects that do NOT include the two image files will NOT be graded and will receive a zero grade.***

* ***You should do all the work above completely on your own***. Working with anybody else
* in class or others on any part of this project will result in a zero grade.
* **No projects will be accepted after the due date *and TIME for any reason***