Mini Project

1. Assume that you are a system administrator for a university where students regularly log into a central server containing their home directory and do all their jobs on the server. Create the following shell scripts for automating the management of users.
    i. A script that creates accounts for all users according to their roll numbers and creates a default password. Users need to change their password at the time of first logon.
    ii. A script for setting the quota 10MB to 50 MB for each of the students.
    iii. A script that takes the backup of all user home directories and system configuration files daily. Name the backup files according to user accounts, system files and the date of backup. This script should execute automatically using the crond daemon daily at 12:00am.
    iv. A script to backup all user accounts for a given batch and delete the user accounts of the students for that batch. Such a script could be useful for setting up the system for the next batch after the current batch has left.
2. Create a script which monitors the processes running on a system time to time - say every 15 minutes. If any running process is down it sends a mail immediately to the system administrator on a given email address.
3. Create a script which monitors the log files in /var/log directory made by syslog and looks for words such as "failed", "stopped", "started", "terminating", "logged", "exit","error" etc... and copies that line from the log file and displays it on the console continuously.
4. Create a program which reads the utmp, wtmp entries of the system which contain the record of all the users logging in to the system and logging out. From this file find out all the users which log into the system between 8:00 p.m. and 9:00 a.m. Create a list of such users daily at 9:00 a.m. by running this program through a crond job. Store this list in a file whose name is in the format userlist-DD-MM-YYYY in a separate directory.
5. Create a script that displays a summary of the system state as follows:
   Uptime

Total Memory

Free Memory :

Swapped Memory:

Number of users:

Hostname

IP Address

Netmask