Main goal

1. Understand how to manage the system resources properly.

Part 1: System resources management

1. Get the number of process running in the system
2. Now, get the number of process running which are owned by the root user
3. Install the Stress Debian package and run it in two additional sessions stressing the CPU. Go back to the first session:
    a. Stop the first 'stress' process and check its state
    b. Resume it.
    c. Decrease the priority of the second as low as possible and detect what happens.
4. Detect which is the process with the highest priority in the system and find out what is its purpose in it.
5. Restrict the max CPU time that the system users can use to a maximum of 5:00 minutes
6. Restrict the core files size of every system user to a maximum of 10 MB
7. Write a `crontab` file to perform the following tasks:
    a. Runs the `date` command each minute and redirect (append) its standard output to the `/tmp/date.log` file.
    b. Cleans the `/tmp` directory at 5:00 PM every day.
    c. Runs the `/root/summary` command the first 5 days of each month at 3:00, 4:00 and 5:00 AM.
8. Check that the cron is working (`date` output is ok).
9. Deny the use of *cron* services to test user. Try to edit crontab with user test.
10. Find the directories where the cron service saves the *crontab* files
11. Enable the *process accounting.*
12. Double the swap space available on the system. Note that:
    a. You may not use new attached disks.
    b. Use the most appropriate way that you deem and make it permanent.

Wait! Remember your *cron* from exercise 7? Check that it did its task b (only if it is later than 5:00 PM, if not come back here later ☺)

13. Create one new partition in a second disk and make an ext3 file system on it. Then, copy the `/home` content in this partition and configure the system to mount it on `/home` directory permanently.

14. Enable the system file quota mounted on `/home`
15. Limit the *test* user (`$HOME`) quota to 100 MB. Grant 2 days and 50 MB of grace.
16. Check this limit using *dd* command.
17. And now think, what could you do to check quotas periodically?