Hello friends,

I hope you're all doing well.
The following exercises are not exam questions, but rather open-ended prompts whose answers can often be found online, through chatbots, or even in technical interviews. These are intended to encourage deeper exploration and self-directed learning based on your current knowledge.
We've selected these questions based on real-world experience and past exam patterns to help you better understand the types of concepts that appear in the LPIC exam. Many of the questions don't have a single correct answer — instead, they are designed to broaden your perspective and understanding.

Please be kind and patient with yourself as you write and research your responses.

Please complete the following exercises using the same format as the directory structure below. Combine your answers into a single PDF file named answer.pdf and submit a pull request.

Reference format:

https://github.com/devopsdoctors/Academy/tree/main/L1-JavanPahlevanan/Exercises/T(x)/nam e-family(emailAddress)/answer.pdf

Sample answer file:

https://github.com/devopsdoctors/Academy/tree/main/L1-JavanPahlevanan/Exercises/T1/ali-far hadian(alifrd49@gmail.com)/answer.pdf

1. What is the purpose of the /etc/passwd file, and how is it related to /etc/shadow?
2. How can I enforce a password change policy for users every 100 days?
3. Create a cron job that collects all system log files (/var/log/syslog) every day at 3:00 AM and archives them weekly on Friday night. Then move the weekly archive to another location.
4. Recreate question 3 using systemd-run instead of a traditional cron job.
5. How does hwclock work? What happens to the hardware clock when the device is powered off?
6. Use Chrony to set up a time synchronization service where vm1 acts as the Chrony server and vm2 synchronizes its time using vm1 as the source (do not use external time servers).
7. Explain in detail how the system clock works. What does it mean to synchronize the system time using NTP? What happens if the NTP server goes down? What is meant by 'time drift' in the context of NTP?
8. Write a script that logs user login attempts when a wrong password is entered. This script should be implemented as a systemd service unit.
9. Set up an rsyslog server on vm1 and configure it to receive and store logs from /var/log, journalctl, and dmesg from other systems.