

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

 Sample answer file:

[https://github.com/devopsdoctors/Academy/tree/main/L1-JavanPahlevanan/Exercises/T1/ali-farhadian\(alifrd49@gmail.com\)/answer.pdf](https://github.com/devopsdoctors/Academy/tree/main/L1-JavanPahlevanan/Exercises/T1/ali-farhadian(alifrd49@gmail.com)/answer.pdf)

1. Please explain semantic and anti-semantic keys.
2. What is the meaning of a semantic key, and how can we use authentication and authorization with it?
3. What does a digital signature mean and how does it work?
4. What is the difference between hashing and encryption?
5. Please explain in detail the usage of `ssh -R`, `ssh -L`, and `ssh -D`.
6. What is a certificate? What does it mean to sign a certificate? Does a certificate simply represent a public key, or is it related to keys in another way?
7. At the end of this LPIC-1 topic, please reflect on the purpose behind designing such a complex operating system. If you intended to contribute to this project, which part of the OS would interest you most, and which part would you change, and why?