

DEPARTMENT OF COMPUTER ENGINEERING  
UNIVERSITY OF PERADENIYA

CO327: Operating Systems - 2020

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April 1, 2020

Assignment 1:

Read *Chapter 2 of Operating System Concepts*, 9th Edition, by *Avi Silberschatz, Peter Galvin and Greg Gagne*.

Answer the following questions:

1. What is the purpose of system calls?
2. What is the purpose of the command interpreter? Why is it usually separate from the kernel?
3. What is the purpose of system programs?
4. What is the main advantage of layered approach to system design? What are the disadvantages of the layered approach?
5. Why do some systems store the operating system in firmware, while others store it on disk?
6. The services and functions provided by an operating system can be divided into two main categories. Briefly describe the two categories, and discuss how they differ.
7. Describe three general methods for passing parameters to the operating system.
8. What are the advantages and disadvantages of using the same system call interface for manipulating both files and devices?
9. What are the two models of interprocess communication? What are the strengths and weaknesses of the two approaches?
10. Why is the separation of mechanism and policy desirable?

11. What is the main advantage of the microkernel approach to system design? How do user programs and system services interact in a microkernel architecture? What are the disadvantages of using the microkernel approach?
12. What are the advantages of using loadable kernel modules?
13. Explain why Java programs running on Android systems do not use the standard Java API and virtual machine

Please make your answers as succinct as possible.

**DEADLINE: 06:00 pm on Tuesday, April 28, 2020**