Operating Systems, 3e
Gary Nutt

Test Bank

Chapter One: Introduction

TRUE/FALSE

1. A modern, well-designed operating system still has design flaws.
2. The OS is the part of the system software that manages the use of the hardware by application software that chooses to take advantage of its (the OS) services.
3. System software must be useful in most application domains.
4. Abstraction simplifies the way an application program controls the hardware, but can also limit flexibility to manipulate the hardware.
5. An abstraction cannot be simpler than the actual resource interface.
6. In a conventional, single-CPU computer system, multiple programs can execute simultaneously.
7. Multiple program executions each appear to have their own private computer—an abstract machine—on which to execute.
8. Well-designed multiprogramming can improve the performance of most processes.
9. Resource isolation is mandatory for the correct operation of most abstract machines.
10. All system software is implemented as trusted software.

SHORT ANSWER

1. The _____'s view of the computer is of the application software.
2. System software and hardware exist to support the creation and effective use of _____.
3. In a computer system, _____ are used to eliminate tedious detail that a programmer otherwise would have to handle.
4. True simultaneous program execution is called _____.
5. _____ mechanisms allow processes to use common resources through their own coordination strategy.
6. Contemporary operating systems are constructed as _____ in order for the overall system to behave correctly.
7. _____ was the first class of operating system to support multiprogramming.
8. Small communicating computers are influencing operating technology in the trend from process-based computing to _____-based computing, which uses fewer system resources.
9. The _____ class of operating systems stimulated new operating system developments to support multiple sessions and virtual terminals.
10. A timesharing multiprogramming system that supports multiple processes per user is sometimes called a _____ system.

MULTIPLE CHOICE

1. The operating system does each of the following <u>except</u>
   a. Allocates the computer's components to different programs
   b. Synchronizes individual programs' activities
   c. Ensures that programs terminate their execution
   d. Provides the general mechanisms that are needed so that the programs execute in perfect harmony

2. Which is <u>not</u> an example of system software?
   a. Command line interpreter
   b. Database management system
   c. Window system
   d. Personal productivity package

3. An operating system is distinguished from other system software by each of the following <u>except</u>
   a. It interacts directly with the hardware to provide an interface used by other system software and application software
   b. It allows different applications to share the hardware resources through its resource management policies
   c. It can be used to support a broad range of application domains
   d. The hardware resource abstractions it provides are convenient, but their use by applications is optional.

4. Good abstractions will do each of the following <u>except</u>
   a. Allow the programmer to easily perform every operation on the resources used in the application domain
   b. Be easy for the end user to understand
   c. Be easy for the programmer to understand
   d. Be suited to one or more application domains

5. Which is <u>not</u> an example of a resource that is commonly space-multiplexed?
   a. CPU
   b. Video RAM
   c. Hard drive
   d. Main memory

6. Which is <u>not</u> an example of a resource that is commonly time-multiplexed?
   a. Network interface
   b. CPU
   c. Graphics accelerator
   d. Main memory

7. Which is <u>not</u> a process execution characteristic that can be used to speed up a system using parallelism?
   a. Each process spends most of its time using hardware I/O devices
   b. A process does not need the processor while doing I/O
   c. I/O operations take much longer than processor operations
   d. Most processes use the CPU more than doing I/O

8. Which one of the following <u>must</u> be implemented as trusted software?
   a. DBMS
   b. Multiprogramming manager
   c. Compiler
   d. Command interpreter

9. Which is <u>not</u> an example of a time-sharing system?
   a. Multics
   b. UNIX
   c. MS-DOS
   d. Cal

10. Embedded systems have influenced modern operating systems in the following ways <u>except</u>
   a. Data movement
   b. Scheduling
   c. Human-computer interaction
   d. Real-time management

ANSWERS (w/ Page References)
True/false
1. T, p. 2
2. F, p. 4
3. F, p. 6
4. T, p. 7
5. F, p. 8
6. F, p. 11
7. T, p. 11
8. F, p. 14
9. T, p. 16
10. F, p. 17

Short Answer
1. end user's, p. 3
2. application software, p.4
3. abstractions, p. 7
4. parallel execution, p. 11
5. explicit resource sharing, p. 16
6. trusted software, p. 17
7. batch systems, p. 19
8. thread, p. 34
9. personal computers and workstations, p. 29
10. multitasking, p. 25

Multiple Choice
1. c, p.1
2. d, p. 5-6
3. d, p. 6-7
4. b, p. 8
5. a, p. 12
6. d, p. 12
7. d, p. 15
8. b, p. 17-18
9. c, p. 23-24
10. c, p. 38

CHAPTER 2: Using the Operating System