

Chapter 2

Multiple Choice

1. A _____ is an example of a systems program.
A) command interpreter
B) Web browser
C) text formatter
D) database system
2. If a program terminates abnormally, a dump of memory may be examined by a _____ to determine the cause of the problem.
A) module
B) debugger
C) shell
D) control card
3. A message-passing model is _____.
A) easier to implement than a shared memory model for intercomputer communication
B) faster than the shared memory model
C) a network protocol, and does not apply to operating systems
D) only useful for small simple operating systems
4. Policy _____.
A) determines how to do something
B) determines what will be done
C) is not likely to change across places
D) is not likely to change over time
5. The major difficulty in designing a layered operating system approach is _____.
A) appropriately defining the various layers
B) making sure that each layer hides certain data structures, hardware, and operations from higher-level layers
C) debugging a particular layer
D) making sure each layer is easily converted to modules
6. A microkernel is a kernel _____.
A) containing many components that are optimized to reduce resident memory size
B) that is compressed before loading in order to reduce its resident memory size
C) that is compiled to produce the smallest size possible when stored to disk
D) that is stripped of all nonessential components
7. To the SYSGEN program of an operating system, the least useful piece of information is _____.
A) the CPU being used

- B) amount of memory available
- C) what applications to install
- D) operating-system options such as buffer sizes or CPU scheduling algorithms

8. A boot block ____.

- A) typically only knows the location and length of the rest of the bootstrap program
- B) typically is sophisticated enough to load the operating system and begin its execution
- C) is composed of multiple disk blocks
- D) is composed of multiple disk cylinders

9. ____ provide(s) an interface to the services provided by an operating system.

- A) Shared memory
- B) System calls
- C) Simulators
- D) Communication

10. ____ is not one of the major categories of system calls.

- A) Process control
- B) Communications
- C) Protection
- D) Security

11. ____ allow operating system services to be loaded dynamically.

- A) Virtual machines
- B) Modules
- C) File systems
- D) Graphical user interfaces

12. Microkernels use ____ for communication.

- A) message passing
- B) shared memory
- C) system calls
- D) virtualization

13. The Windows `CreateProcess()` system call creates a new process. What is the equivalent system call in UNIX:

- A) `NTCreateProcess()`
- B) `process()`
- C) `fork()`
- D) `getpid()`

14. The Windows `CreateFile()` system call is used to create a file. What is the equivalent system call in UNIX:

- A) `ioctl()`
- B) `open()`
- C) `fork()`

D) `createfile()`

15. _____ is a mobile operating system designed for the iPhone and iPad.

- A) Mac OS X
- B) Android
- C) UNIX
- D) iOS

16. Which of the following statements is incorrect?

- A) An operating system provides an environment for the execution of programs.
- B) An operating system manages system resources.
- C) Operating systems provide both command line as well as graphical user interfaces.
- D) Operating systems must provide both protection and security.

17. _____ is/are not a technique for passing parameters from an application to a system call.

- A) Cache memory
- B) Registers
- C) Stack
- D) Special block in memory

True/False

18. KDE and GNOME desktops are available under open-source licenses.

19. An initial bootstrap program is in the form of random-access memory (RAM).

20. System calls can be run in either user mode or kernel mode.

21. Application programmers typically use an API rather than directly invoking system calls.

22. In general, Windows system calls have longer, more descriptive names and UNIX system calls use shorter, less descriptive names.

23. Mac OS X is a hybrid system consisting of both the Mach microkernel and BSD UNIX.

24. iOS is open source, Android is closed source.