CS 3210 Design of Operating Systems: How operating systems work

1. How do operating systems work?

a. By managing the resources of a computer system

b. By providing an interface between the user and the hardware

c. By managing the execution of programs

d. All of the above

2. Which of the following is not a function of an operating system?

a. Memory management

b. Process management

c. Device management

d. User management

3. What is the primary purpose of an operating system?

a. To make the computer system convenient to use

b. To make the most efficient use of the computer hardware

c. To make the computer system secure

d. All of the above

4. Which of the following is not a type of operating system?

a. Batch

b. Real-time

c. Distributed

d. Embedded

5. What is the kernel of an operating system?

a. The part of the operating system that manages the resources of the computer system

b. The part of the operating system that provides an interface between the user and the hardware

c. The part of the operating system that manages the execution of programs

d. All of the above

6. What is virtualization?

a. The creation of a virtual version of something

b. The creation of a virtual machine

c. The creation of a virtual disk

d. All of the above

7. What is a process?

a. A program in execution

b. A unit of work

c. A thread of execution

d. All of the above

8. What is a thread?

a. A program in execution

b. A unit of work

c. A path of execution

d. All of the above

9. What is multiprogramming?

a. The execution of multiple programs on a single processor

b. The execution of multiple programs on multiple processors

c. The execution of multiple threads on a single processor

d. The execution of multiple threads on multiple processors

10. What is multitasking?

a. The execution of multiple programs on a single processor

b. The execution of multiple programs on multiple processors

c. The execution of multiple threads on a single processor

d. The execution of multiple threads on multiple processors

11. What is multiprocessing?

a. The execution of multiple programs on a single processor

b. The execution of multiple programs on multiple processors

c. The execution of multiple threads on a single processor

d. The execution of multiple threads on multiple processors

12. What is a process control block?

a. A data structure that contains information about a process

b. A data structure that contains information about a thread

c. A data structure that contains information about a resource

d. All of the above

13. What is context switching?

a. The process of switching from one process to another

b. The process of switching from one thread to another

c. The process of switching from one resource to another

d. All of the above

14. What is scheduling?

a. The process of allocating resources to processes

b. The process of allocating resources to threads

c. The process of allocating resources to users

d. All of the above

15. What is a semaphore?

a. A variable that is used to control access to a resource

b. A variable that is used to control access to a process

c. A variable that is used to control access to a thread

d. All of the above

16. What is deadlock?

a. A situation in which two processes are each waiting for the other to release a resource

b. A situation in which two threads are each waiting for the other to release a resource

c. A situation in which two resources are each waiting for the other to release a process

d. All of the above

17. What is a race condition?

a. A situation in which two processes are each trying to access the same resource

b. A situation in which two threads are each trying to access the same resource

c. A situation in which two resources are each trying to access the same process

d. All of the above

18. What is a critical section?

a. A section of code that accesses a shared resource

b. A section of code that accesses a critical resource

c. A section of code that accesses a shared data structure

d. All of the above

19. What is mutual exclusion?

a. A situation in which two processes are each trying to access the same resource

b. A situation in which two threads are each trying to access the same resource

c. A situation in which two resources are each trying to access the same process

d. All of the above

20. What is a deadlock avoidance algorithm?

a. An algorithm that prevents deadlocks from occurring

b. An algorithm that detects deadlocks

c. An algorithm that recovers from deadlocks

d. All of the above

21. What is a deadlock detection algorithm?

a. An algorithm that prevents deadlocks from occurring

b. An algorithm that detects deadlocks

c. An algorithm that recovers from deadlocks

d. All of the above

22. What is a deadlock recovery algorithm?

a. An algorithm that prevents deadlocks from occurring

b. An algorithm that detects deadlocks

c. An algorithm that recovers from deadlocks

d. All of the above

23. What is a wait-for graph?

a. A graph that represents the wait-for relationship between processes

b. A graph that represents the wait-for relationship between threads

c. A graph that represents the wait-for relationship between resources

d. All of the above

24. What is a resource allocation graph?

a. A graph that represents the allocation of resources to processes

b. A graph that represents the allocation of resources to threads

c. A graph that represents the allocation of resources to users

d. All of the above

25. What is a Banker's algorithm?

a. An algorithm that prevents deadlocks from occurring

b. An algorithm that detects deadlocks

c. An algorithm that recovers from deadlocks

d. All of the above

1. How do operating systems work?

d. All of the above

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d. User management

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d. All of the above

4. Which of the following is not a type of operating system?

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