第一章

The general role of an operating system is to:d

a. None of the above ✗

b. Manage files for application programs ✗

c. Act as an interface between various computers ✗

d. Provide a set of services to system users ✓

Information that must be saved prior to the processor transferring control to the interrupt handler routine includes: b

a. None of the above ✗

b. Processor Status Word (PSW) & Location of next instruction

c. Processor Status Word (PSW) ✗

d. Processor Status Word (PSW) & Contents of processor registers ✗

One accepted method of dealing with multiple interrupts is to:

a. Define priorities for the interrupts ✓

b. None of the above ✗

c. Disable all interrupts except those of highest priority

d. Service them in round-robin fashion ✗

In a uniprocessor system, multiprogramming increases processor efficiency by:
d

a. Increasing processor speed ✗

b. Eliminating all idle processor cycles

c. All of the above ✗

d. Taking advantage of time wasted by long wait interrupt handling ✓

As one proceeds down the memory hierarchy (i.e., from inboard memory to offline storage), the following condition(s) apply:
c

a. Decreasing capacity ✗

b. Increasing cost per bit ✗

c. Increasing access time

d. All of the above ✗

Small, fast memory located between the processor and main memory is called

b

a. None of the above ✗

b. Cache memory ✓

c. WORM memory ✗

d. CD-RW memory ✗

When a new block of data is written into cache memory, the following determines which cache location the block will occupy:
选择一个答案 a

a. None of the above ✓

b. Write policy ✗

c. Cache size ✗

d. Block size ✗

The four main structural elements of a computer system are:
b

a. Processor, Registers, I/O Modules & Main Memory ✗

b. Processor, Main Memory, I/O Modules & System Bus ✓

c. None of the above ✗

d. Processor, Registers, Main Memory & System Bus ✗

The two basic types of processor registers are: a

a. User-visible and Control/Status registers

b. User-visible and user-invisible registers ✗

c. None of the above ✗

d. Control and Status registers ✗

Address registers may contain c

a. Memory addresses of data ✗

b. Memory addresses of instructions

c. All of the above ✓

d. Partial memory addresses ✗

A Control/Status register that contains the address of the next instruction to be fetched is called the: c

a. All of the above ✗

b. Program Status Word (PSW)

c. Program Counter (PC) ✓

d. Instruction Register (IR) ✗

The two basic steps used by the processor in instruction processing are: c

a. Instruction and Execute cycles

b. Fetch and Instruction cycles ✗

c. Fetch and Execute cycles ✓

d. None of the above ✗

A fetched instruction is normally loaded into the: c

a. Program Counter (PC) ✗

b. None of the above ✗

c. Instruction Register (IR)

d. Accumulator (AC) ✗

A common class of interrupts is: d

a. Program

b. I/O ✗

c. Timer ✗

d. All of the above

When an external device becomes ready to be serviced by the processor, the device sends this type of signal to the processor: b

a. None of the above

b. Interrupt signal ✓

c. Halt signal ✗

d. Handler signal ✗

第二章

A primary objective of an operating system is: a

a. All of the above

b. Convenience ✗

c. Ability to evolve

d. Efficiency ✗

The paging system in a memory management system provides for dynamic mapping between a virtual address used in a program and: a

a. A real address in main memory ✓

b. None of the above ✗

c. A virtual address in main memory

d. A real address in a program ✗

Relative to information protection and security in computer systems, access control typically refers to: d

a. Proving that security mechanisms perform according to specification ✗

b. None of the above ✗

c. The flow of data within the system ✗

d. Regulating user and process access to various aspects of the system ✓

A common problem with full-featured operating systems, due to their size and difficulty of the tasks they address,is: d

a. Latent bugs that show up in the field

b. Chronically late in delivery ✗

c. Sub-par performance ✗

d. All of the above ✓

A technique in which a process, executing an application, is divided into threads that can run concurrently is called: d

a. None of the above ✗

b. Symmetric multiprocessing (SMP)

c. Multiprocessing ✗

d. Multithreading ✓

WIN2K supports several types of user applications, including: c

a. None of the above

b. Linux ✗

c. WIN32 ✓

d. System 10 ✗

Key to the success of Linux has been it's character as a free software package available under the auspices of the: c

a. None of the above ✗

b. Berkeley Software Distribution

c. Free Software Foundation ✓

d. World Wide Web Consortium ✗

The operating system provides many types of services to end-users, programmers and

system designers, including: b

a. Built-in user applications ✗

b. Error detection and response

c. All of the above ✗

d. Relational database capabilities with the internal file system ✗

The operating system is unusual in it's role as a control mechanism, in that: c

a. None of the above ✗

b. It runs on a special processor, completely separated from the rest of the system ✗

c. It frequently relinquishes control of the system processor and must depend on the processor to regain control of the system ✓

d. It never relinquishes control of the system processor ✗

Operating systems must evolve over time because a

a. New hardware is designed and implemented in the computer system

b. Hardware must be replaced when it fails ✗

c. All of the above ✗

d. Users will only purchase software that has a current copyright date ✗

A major problem with early serial processing systems was: a

a. Setup time ✓

b. Inability to get hardcopy output

c. All of the above ✗

d. Lack of input devices ✗

An example of a hardware feature that is desirable in a batch-processing system is a

a. Privileged instructions ✓

b. None of the above ✗

c. A completely accessible memory area

d. Large clock cycles ✗

A computer hardware feature that is vital to the effective operation of a multiprogramming operating system is: b

a. All of the above ✗

b. I/O interrupts and DMA

c. Very large memory ✗

d. Multiple processors ✗

The principle objective of a time sharing, multiprogramming system is to

选择一个答案 c

a. Maximize processor use

b. Maximize response time

c. None of the above ✓

d. Provide exclusive access to hardware

Which of the following major line of computer system development created problems in timing and synchronization that contributed to the development of the concept of the process? c

a. Multiprogramming batch operation systems

b. Real time transaction systems ✗

c. All of the above ✓

d. Time sharing systems ✗

第三章

The behavior of a processor can be characterized by examining: b

a. Multiple process traces ✗

b. The interleaving of the process traces

c. All of the above ✗

d. A single process trace ✗

The Process Image element that contains the modifiable part of the user space is called the: a
进程镜像=PCB+程序+STACK+可修改的 DATA

a. None of the above ✓

b. Process Control Block

c. System Stack ✗

d. User Program ✗

分数: 7/7
The processor execution mode that user programs typically execute in is referred to as: a

a. User mode ✓

b. None of the above

c. Kernel mode ✗

d. System mode ✗

One step in the procedure for creating a new process involves: b

a. Allocating space for the process ✗

b. All of the above ✓

c. Initializing the process control block

d. Assigning a unique identifier ✗

A process switch may occur when the system encounters an interrupt condition, such as that generated by a:

进程切换：TRAP(异常)+系统调用 +INTERRUPT c

a. Trap ✗

b. Supervisor call

c. All of the above

d. Memory fault ✗

##操作系统仅仅是一组程序，并被处理器执行，是进程吗？如何控制它？
。。。3 种方法：
无进程的内核
在用户进程中执行（有一组进程切换函数） 常用的 PC 就是这样的
基于进程的操作系统

In the Process Based O/S: 基于进程的操作系统

Major kernel functions are organized as separate functions c

a. The User Process Image includes a kernel stack ✗

b. O/S code and data are contained in the shared address space ✗

c. Major kernel functions are organized as separate functions ✓

d. None of the above ✗

UNIX 进程描述：
用户级上下文 进程正文，进程数据
系统级上下文 内核栈
寄存器上下文 程序计数器，处理器状态寄存器

In a typical UNIX system, the element of the process image that contains the processor status information is the:

选择一个答案 d

a. All of the above ✗

b. System-level context

c. User-level context ✗

d. Register context ✓

The behavior of an individual process can be characterized by examining: a

a. A single process trace ✓

b. Multiple process traces ✗

c. The interleaving of the process traces

d. All of the above ✗

The basic Two-State Process Model defines two possible states for a process in relationship to the processor: a

a. Running and Not Running

b. None of the above ✗

c. Executing and Waiting ✗

d. Running and Executing ✗

There are a number of conditions that can lead to process termination, including: c

a. Bounds violation ✗

b. Parent termination

c. All of the above ✓

d. Normal completion ✗

In the Five-State Process Model, the following represents a valid state transition: c

a. All of the above ✗

b. New -> Running ✗

c. Running -> Blocked

d. New -> Blocked ✗

In a Process Model that implements two suspend states, a valid state transition is represented by: b

a. Running -> Ready/Suspend

b. All of the above ✓

c. Ready -> Ready/Suspend ✗

d. Ready/Suspend -> Ready ✗

The scheduling strategy where each process in the queue is given a certain amount of time, in turn, to execute and then returned to the queue, unless blocked is referred to as: a

a. Round-Robin ✓

b. All of the above

c. Prioritization ✗

d. LIFO ✗

A Memory Table is an O/S control structure that is used by the O/S to: b

a. Manage I/O devices

b. None of the above ✓

c. Manage processes ✗

d. Provide information about system files

进程描述：

1.操作系统的控制结构：

4 个表：内存表，跟踪主存，辅存

IO 表 文件表 进程表

2.进程控制结构：PCB ,进程映像。。

第四章

The concept of a process in an operating system embodies two primary characteristics, one of which is: b

a. None of the above ✗

b. Resource ownership

c. Multithreading ✗

d. Symmetric multiprocessing

Early operating systems that were designed with little concern about structure are typically referred to as: b

a. Kernel operating systems ✗

b. Monolithic operating systems

c. Layered operating systems ✗

d. All of the above ✗

A benefit of the microkernel organization is: c

a. Flexibility ✗

b. Portability ✗

c. All of the above

d. Extensibility ✗

In low-level microkernel memory management, an example of an operation that can support external paging and virtual memory management is the: b
低级存储器管理：
提供一组3个微内核操作，用于支持内核 外的分页和虚存管理 ：
授权 ， 映射 ， 刷新

a. Flush operation

b. All of the above

c. Grant operation

d. Map operation ✗

In a W2K system, the state that a thread enters when it has been unblocked and the resource for which it has been blocked is not yet available is called the: c

a. Waiting state ✗

b. Standby state ✗

c. Transition state

d. None of the above

分数: 7/7
In a Solaris system, a User-Level Thread (ULT) that enters the active state is assigned to b

a. None of the above ✗

b. Light-Weight Process (LWP) ✓

c. Heavy-Weight Process (HWP)

d. Kernel thread ✗

In a Linux system, when a new process is cloned, the two processes share the same: a

a. Virtual memory ✓

b. Process identifier

c. All of the above ✗

d. task_struct data structure

An example of a system that implements a single process with multiple threads is: a

a. Java ✓

b. WIN 2000

c. Solaris ✗

d. All of the above

Which of the following is true regarding the relationship between processes and threads: b

a. All of the above ✗

b. It takes far less time to create a new thread in an existing process than to create a new process ✓

c. It takes less time to switch between two different processes than to switch between two threads within the same process ✗

d. It takes less time to terminate a process than a thread ✗

The basic thread operation related to the change in thread state that occurs when a thread needs to wait for an event is referred to as the: d

a. Unblock operation

b. None of the above

c. Spawn operation ✗

d. Block operation ✓

One of the disadvantages of User-Level Threads (ULTs) compared to Kernel-Level Threads (KLTs) is: a

a. When a ULT executes a system call, all threads in the process are blocked ✓

b. Scheduling is application specific ✗

c. Thread switching does not require kernel mode privileges ✗

d. All of the above ✗

In the Linux O/S, multiple threads may be created and executed within a single process. This is an example of the following Thread-to-Process relationship: c

a. M:N ✗

b. 1:M ✗

c. None of the above

d. 1:1 ✗

The computer system category where a single processor executes a single instruction

stream to operate on data stored in a single memory is called: a

a. Single Instruction Single Data (SISD) stream ✓

b. Multiple Instruction Single Data (MISD) stream

c. Single Instruction Multiple Data (SIMD) stream

d. None of the above ✗

In a SMP system, each processor maintains a local cache and must alert all other processors that a change to cache update has taken place. This is referred to as the: a

a. Cache coherency problem ✓

b. Synchronization mechanism problem

c. Interconnection mechanism problem ✗

d. None of the above ✗

Key issues involved in the design of multiprocessor operating systems include: b

a. Scheduling ✗

b. Synchronization ✗

c. Reliability and fault tolerance ✗

d. All of the above ✓

第五章

Which of the following major line of computer system development created problems in timing and synchronization that contributed to the development of the concept of the process? b

a. Time sharing systems ✗

b. All of the above ✓

c. Real time transaction systems

d. Multiprogramming batch operation systems

A primary objective of an operating system is: c

a. Ability to evolve

b. Efficiency ✗

c. All of the above

d. Convenience ✗

The paging system in a memory management system provides for dynamic mapping between a virtual address used in a program and: a

a. A real address in main memory ✓

b. A virtual address in main memory

c. None of the above ✗

d. A real address in a program ✗

Relative to information protection and security in computer systems, access control typically refers to: a

a. Regulating user and process access to various aspects of the system

b. The flow of data within the system ✗

c. Proving that security mechanisms perform according to specification

d. None of the above ✗

A common problem with full-featured operating systems, due to their size and difficulty of the tasks they address, is: d

a. Chronically late in delivery ✗

b. Latent bugs that show up in the field

c. Sub-par performance ✗

d. All of the above ✓

A technique in which a process, executing an application, is divided into threads that can run concurrently is called: d

a. Symmetric multiprocessing (SMP)

b. None of the above ✗

c. Multiprocessing ✗

d. Multithreading ✓

WIN2K supports several types of user applications, including: d

a. None of the above

b. System 10 ✗

c. Linux ✗

d. WIN32 ✓

Key to the success of Linux has been it's character as a free software package available under the auspices of the: d

a. None of the above ✗

b. Berkeley Software Distribution

c. World Wide Web Consortium ✗

d. Free Software Foundation ✓

The operating system provides many types of services to end-users, programmers and system designers, including: c

a. Relational database capabilities with the internal file system

b. All of the above ✗

c. Error detection and response ✓

d. Built-in user applications ✗

The operating system is unusual in it's role as a control mechanism, in that: b

a. It runs on a special processor, completely separated from the rest of the system ✗

b. It frequently relinquishes control of the system processor and must depend on the processor to regain control of the system ✓

c. It never relinquishes control of the system processor ✗

d. None of the above ✗

Operating systems must evolve over time because a

a. New hardware is designed and implemented in the computer system

b. All of the above ✗

c. Hardware must be replaced when it fails ✗

d. Users will only purchase software that has a current copyright date ✗

A major problem with early serial processing systems was: b

a. All of the above ✗

b. Setup time ✓

c. Inability to get hardcopy output

d. Lack of input devices ✗

An example of a hardware feature that is desirable in a batch-processing system is d

a. A completely accessible memory area

b. Large clock cycles ✗

c. None of the above ✗

d. Privileged instructions ✓

A computer hardware feature that is vital to the effective operation of a multiprogramming operating system is: b

a. All of the above ✗

b. I/O interrupts and DMA

c. Multiple processors ✗

d. Very large memory ✗

The principle objective of a time sharing, multiprogramming system is to b

a. Maximize response time

b. None of the above ✓

c. Maximize processor use

d. Provide exclusive access to hardware

第六章

The permanent blocking of a set of processes that either compete for system resources or communicate with each other is called: c

a. All of the above

b. Prioritization ✗

c. Deadlock ✓

d. Starvation ✗

In deadlocked process recovery, selection criteria for choosing a particular process to abort or rollback includes designating the process with the: b

a. Least total resources allocated so far

b. All of the above ✓

c. Most estimated time remaining ✗

d. Lowest priority ✗

One approach to an integrated strategy for dealing with deadlocks involves the

implementation of: d

a. Virtual memory ✗

b. Process rollbacks

c. None of the above

d. Resource classes ✓

The Dining Philosopher's Problem is a standard test case for evaluating approaches to implementing: d

a. Starvation ✗

b. Deadlock ✗

c. All of the above

d. Synchronization ✓

A software mechanism that informs a process of the occurrences of asynchronous events in UNIX are called: a

a. Signals ✓

b. Messages

c. Pipes ✗

d. All of the above

Thread synchronization primitives supported by Solaris include:b

a. Semaphores ✗

b. All of the above ✓

c. Mutual exclusion (mutex) locks

d. Condition variables ✗

The family of synchronization objects implemented by W2K include: b

a. Mutex objects ✗

b. All of the above

c. Event objects ✗

d. Semaphore objects ✗

All deadlocks involve conflicting needs for resources by: a

a. Two or more processes ✓

b. Three or more processes

c. One or more processes ✗

d. None of the above ✗

A resource that can be created and destroyed is called a: d

a. Reusable resource ✗

b. Producible resource

c. All of the above ✗

d. Consumable resource ✓

An example of a consumable resource is the following: b

a. Printers ✗

b. Messages ✓

c. All of the above

d. Main Memory ✗

A condition of policy that must be present for a deadlock to be possible is: c

a. Hold and wait ✗

b. Mutual exclusion

c. All of the above ✓

d. No preemption ✗

A direct method of deadlock prevention is to prevent the occurrence of: b

a. Hold and wait ✗

b. Circular wait ✓

c. All of the above

d. Mutual exclusion ✗

In the Resource Allocation Denial approach to Deadlock Avoidance, a safe state is defined as one in which: b

a. All potential process sequences do not result in a deadlock: ✗

b. At least one potential process sequence does not result in a deadlock

c. None of the above ✗

d. Several potential process sequences do not result in a deadlock: ✗

A conservative strategy for dealing with deadlocks that involves limiting access to resources and imposing restrictions on processes is called: a

a. Deadlock Prevention

b. None of the above ✗

c. Deadlock Avoidance

d. Deadlock Detection ✗

第七章

The task of subdividing memory between the O/S and processes is performed automatically by the O/S and is called: a

a. Memory Management

b. Relocation ✗

c. All of the above ✗

d. Protection ✗

A reference to a memory location independent of the current assignment of data to memory is called a👎: c

a. Relative address ✗

b. None of the above

c. Logical address ✓

d. Absolute address ✗

An actual location in main memory is called a: b

a. Logical address ✗

b. Absolute address

c. Relative address ✗

d. None of the above ✗

The page table for each process maintains: d

a. The physical memory location of the process ✗

b. The page location for each frame of the process

c. None of the above ✗

d. The frame location for each page of the process ✓

In a system employing a paging scheme for memory management, wasted space is due to: d

a. None of the above ✗

b. Pages and frames of different specified sizes

c. External fragmentation ✗

d. Internal fragmentation ✓

In a system employing a segmentation scheme for memory management, wasted space is due to: d

a. Segments of different sizes

b. None of the above ✗

c. Internal fragmentation ✗

d. External fragmentation ✓

In a system employing a segmentation scheme for memory management, a process is divided into: b

a. None of the above ✗

b. A number of segments which need not be of equal size ✓

c. A number of segments which must be of equal size ✗

d. One segment per thread ✗

分数: 7/7

The concept of Memory Management satisfies certain system requirements, including: c

a. Protection ✗

b. Physical organization

c. All of the above ✓

d. Relocation ✗

The practice in which a program and data are organized in such a way that various modules can be assigned the same region of memory is called: c

a. Relocation

b. Sharing ✗

c. Overlaying

d. None of the above

The concept of virtual memory is based on one or both of two basic techniques: a

a. Segmentation and paging

b. Overlaying and relocation

c. None of the above ✗

d. Segmentation and partitioning

A problem with the largely obsolete Fixed Partitioning memory management technique is that of: c

a. Allowing only a fixed number of Processes

b. Internal fragmentation ✗

c. All of the above ✓

d. Inefficient use of memory ✗

The problem of internal fragmentation can be lessened in systems employing a fixed-partition memory management scheme by using: a

a. Unequal size partitions

b. Equal size partitions ✗

c. Random size partitions

d. None of the above ✗

In the Dynamic Partitioning technique of memory management, the phenomenon that results in unused blocks of memory outside of existing partitions is called: b

a. None of the above ✗

b. External fragmentation

c. Compaction ✗

d. Internal fragmentation ✗

In the Dynamic Partitioning technique of memory management, the placement algorithm that chooses the block that is closest in size to the request is called: a

a. Best-fit ✓

b. All of the above

c. Next-fit ✗

d. First-fit ✗

In the Dynamic Partitioning technique of memory management, the placement algorithm that scans memory from the location of the last placement and chooses the next available block that large enough to satisfy the request is called: a

a. Next-fit ✓

b. All of the above

c. Best-fit ✗

d. First-fit ✗

第八章

The type of memory that allows for very effective multiprogramming and relieves the user

of memory size constraints is referred to as: b

a. Real memory

b. Virtual memory

c. Main memory

d. All of the above

The replacement policy that is impossible to implement because it would require the O/S to have perfect knowledge of future events is called the: a

a. Optimal policy ✓

b. None of the above

c. Least recently used (LRU) policy

d. Clock policy

The replacement policy that chooses only among the resident pages of the process that generated the page fault in selecting a page to replace is referred to as a: c

a. None of the above ✗

b. Variable replacement policy

c. Local replacement policy ✓

d. Global replacement policy ✗

The concept associated with determining the number of processes that will be resident in main memory is referred to as: c

a. Load Control ✗

b. A cleaning policy ✗

c. The page fault frequency

d. None of the above ✗

In SVR4 and Solaris systems, the memory management scheme that manages user processes and disk I/O is called the: c

a. Virtual memory manager

b. None of the above ✗

c. Paging system ✓

d. Kernel memory allocator ✗

The multi-level memory management scheme implemented in Linux was designed to minimize large page tables and directories in which of the following line of processors: c

a. None of the above ✗

b. 32-bit Pentium/X86 architecture

c. 64-bit Alpha architecture ✓

d. 16-bit X86 architecture ✗

The Windows 2000 virtual memory manager can use page sizes ranging from: d

a. 4 GB to 4 TB ✗

b. 64 KB to 4 GB ✗

c. None of the above

d. 4 KB to 64 KB ✓

The situation where the processor spends most of its time swapping process pieces rather than executing instructions is called: a

a. Thrashing ✓

b. Paging ✗

c. The Principle of Locality

d. None of the above ✗

The situation that occurs when the desired page table entry is not found in the Translation Lookaside Buffer (TLB) is called a: a

a. TLB miss ✓

b. Page fault ✗

c. None of the above

d. TLB hit ✗

<p>The real address of a word in memory is translated from the following portions of a

virtual address: </p> d

a. Frame number and offset ✗

b. None of the above ✗

c. Page number and frame number

d. Page number and offset ✓

Segmentation has a number of advantages to the programmer over a non-segmented address space, including: c

a. Sharing among processes ✗

b. Simplifying the handling of growing data structures

c. All of the above ✓

d. Protection ✗

In a combined paging/segmentation system, a user's address space is broken up into a number of: a

a. Variable-sized Segments, which are in turn broken down into fixed-size pages ✓

b. Segments or pages, at the discretion of the programmer ✗

c. All of the above ✗

d. Fixed-size pages, which are in turn broken down into variable-sized segments ✗

Sharing is achieved in a segmentation system by: b

a. Each process segment table having a reference to the dispatcher main memory area ✗

b. Referencing a segment in the segment tables of more than one process

c. Having a common data area that all processes can share ✗

d. All of the above ✗

A fundamental choice in the design of the memory-management portion of an O/S is:

选择一个答案 a

a. All of the above ✓

b. The algorithms employed for various aspects of memory management ✗

c. Whether or not to use virtual memory techniques ✗

d. Whether to use paging, segmentation of a combination of the two ✗

选择一个答案 d

a. None of the above

b. Swapping ✗

c. Demand paging ✗

d. Prepaging ✓

第九章

The type of scheduling that involves the decision to add a process to those that are at least partially in main memory and therefore available for execution is referred to as: d

a. I/O scheduling ✗

b. None of the above ✗

c. Long-term scheduling

d. Medium-term scheduling

One difficulty with the Shortest Process Next (SPN) scheduling technique is: d

a. The lack of preemption ✗

b. The need to know or estimate required processing times for each process

c. The starvation of longer processes ✗

d. All of the above ✓

One difficulty with the Shortest Remaining Time (SRT) scheduling technique is: c

a. The lack of preemption ✗

b. The starvation of shorter processes ✗

c. The need to know or estimate required processing times for each process ✓

d. All of the above ✗

Which of the following scheduling policies require prior knowledge or estimation of

process length: c

a. Highest Response Ratio Next (HRRN)

b. Shortest Remaining Time (SRT) ✗

c. All of the above ✓

d. Shortest Process Next (SPN) ✗

It is impossible to make definitive comparisons of various scheduling policies due to dependence on factors such as: b

a. The nature of the I/O demand and performance of the I/O subsystem

b. All of the above

c. The efficiency of the scheduling and context switching mechanisms

d. The probability distribution of service times of the various processes ✗

The strategy that schedules processes based on their group affiliation is generally referred to as: b

a. All of the above ✗

b. Fair share scheduling

c. Simulation modeling ✗

d. Queuing analysis ✗

The traditional UNIX scheduler divides processes into fixed bands of priority levels, with the highest priority band being the: a

a. Swapper band ✓

b. File manipulation band

c. User process band ✗

d. None of the above ✗

The decision as to which job to admit to the system next can be based on which of the following criteria: c

a. Simple FIFO ✗

b. I/O requirements

c. All of the above ✓

d. Priority ✗

Typically, the swapping-in function for processes is based on the need to manage: c

a. Process priorities ✗

b. Virtual memory ✗

c. The degree of multiprogramming

d. None of the above ✗

In terms of frequency of execution, the short-term scheduler is usually the one that executes: a

a. Most frequently ✓

b. None of the above

c. Least frequently ✗

d. About the same as the other schedulers

Response time in an interactive system is an example of: a

a. User-oriented criteria for short-term scheduling policies ✓

b. System-oriented criteria for long-term scheduling policies ✗

c. System-oriented criteria for short-term scheduling policies

d. None of the above ✗

<p>A typical way to overcome starvation of lower-priority processes in a priority-based scheduling system is to: d

a. Change a process priority randomly ✗

b. Round-robin cycling of processes in a priority queue

c. All of the above ✗

d. Change a process priority with its age ✓

Which of the following scheduling policies allow the O/S to interrupt the currently running process and move it to the Ready state? c

a. First-come-first-served

b. Non-Preemptive ✗

c. Preemptive ✓

d. None of the above ✗

In terms of the queuing model, the total time that a process spends in a system (waiting time plus service time) is called: a

a. Turnaround or residence time (TAT)

b. Normalized turnaround time (TAT) ✗

c. Finish time (FT) ✗

d. None of the above ✗

In the Round Robin scheduling technique, the principle design issue is: a

a. Determining the length of the time quantum ✓

b. Determining the method of cycling through a given set of processes

c. None of the above ✗

d. Determining the fair distribution of time quanta to individual processes ✗

第十章

An example of the key differences that can exist across (and even in) classes of I/O devices is: b

a. Data rate ✗ b. All of the above ✓ c. Data representation d. Error conditions ✗

The following disk scheduling policy is useful as a benchmark against which to evaluate other disk scheduling policies because it provides a worst-case scenario: c

a. FIFO scheduling b. None of the above c. Random scheduling ✓ d. Priority scheduling ✗

The disk scheduling algorithm that implements two subqueues in a measure to avoid the problem of “arm stickiness” is the: c

a. All of the above b. N-step-SCAN policy c. FSCAN policy ✓ d. C-SCAN policy ✗

Which of the following RAID levels implement some form of parity calculation to introduce redundancy: c

a. RAID Level 6 ✗ b. RAID Level 2 ✗ c. All of the above ✓ d. RAID Level 4 ✗

The disk cache replacement strategy that replaces the block that has experienced the fewest references is called: d

a. Least Recently Used (LRU)

b. All of the above ✗

c. Least Referenced (LR) ✗

d. Least Frequently Used (LFU) ✓

<p>In a UNIX system, which of the following types of I/O devices make use of character queues: c

a. Tape drive ✗

b. All of the above ✗

c. Communications lines

d. Disk drive ✗

In a W2K system, the I/O manager module that includes lazy write and lazy commit services to improve overall performance is the: c

a. Hardware device drivers

b. None of the above ✗

c. Cache manager ✓

d. File system drivers ✗

p>The I/O technique where the processor busy waits for an I/O operation to complete is called: c

a. Interrupt-driven I/O ✗

b. Direct memory access (DMA)

c. Programmed I/O ✓

d. None of the above ✗

The system configuration that includes an I/O module which is a separate processor with a specialized instruction set can be referred to using the following terminology: c

a. I/O Processor b. I/O Channel ✗ c. All of the above ✓ d. Direct Memory Access (DMA)

The bus configuration for DMA that provides no path other than the system bus between the DMA module(s) and I/O devices is: d

a. None of the above ✗

b. I/O bus ✗

c. Single bus, integrated DMA-I/O

d. Single bus, detached DMA ✓

<p>The primary objective in designing the I/O facility of a computer system that deals with the desire to handle all I/O devices in a uniform manner is referred to as: c

a. Directory management

b. Efficiency ✗

c. Generality ✓

d. None of the above ✗

In a hierarchical structure for managing I/O on a secondary storage device that supports a file system, the layer that is closest to the hardware is the: a

a. None of the above ✓

b. Physical organization layer ✗

c. Directory management layer

d. Device I/O layer ✗

An example of a block-oriented I/O device is: c

a. Printer ✗

b. Modem ✗

c.CD-ROM

d. All of the above

The scenario where multiple buffers are used in an attempt to alleviate the problem of absorbing rapid bursts of I/O is typically referred to as: a

a. Circular buffering ✓

b. Double buffering ✗

c. Single buffering ✗

d. None of the above ✗

第十一章

A file is generally defined to be: b

a. A basic element of data ✗

b. A collection of similar records

c. A collection of related fields ✗

d. All of the above ✗

Fixed file blocking experiences the following potential problem: a

a. Internal fragmentation ✓

b. Gaps due to hardware design

c. None of the above ✗

d. External fragmentation ✗

In which of the following file allocation methods is preallocation required: a

a. Contiguous

b. Indexed ✗

c. Chained ✗

d. None of the above

The technique of free disk space management that employs a pointer and length value of each free portion is the: d

a. Free block list

b. Indexing ✗

c. Bit tables ✗

d. None of the above

The data structure that maintains information on available disk space is called the: b

a. Bit Table ✗

b. Disk Allocation Table ✓

c. None of the above ✗

d. File Allocation Table (FAT) ✗

<p>File allocation in a UNIX system has the following characteristics: a

a. Dynamic allocation using non-contiguous blocks with indexing

b. None of the above ✗

c. Preallocation using non-contiguous blocks without indexing ✗

d. Dynamic allocation using contiguous blocks without indexing ✗

In a W2K NTFS file system, the smallest physical storage unit on the disk (almost always 512 bytes) is called a: a

a. Sector ✓

b. None of the above

c. Volume ✗

d. Cluster ✗

The level of the file system architecture that enables users and applications to access file records is called the: d

a. Basic file system level ✗

b. Basic I/O supervisor level

c. All of the above ✗

d. Logical I/O level ✓

Record access in a pile file can be conducted by: d

a. Key field ✗

b. Partial index ✗

c. All of the above

d. Exhaustive search

Sequential files are optimal in scenarios involving: c

a. Applications that require infrequent updates ✗

b. All of the above ✗

c. Applications that require the processing of all records in the file

d. Applications that require frequent queries ✗

Indexed sequential files similar to sequential files, but contain two added features: b

a. All of the above ✗

b. File index and overflow file ✓

c. Hash function and file index

d. Hash function and an overflow file

Direct or hashed files are often used where: d

a. Very rapid access is required ✗

b. Fixed length records are used ✗

c. Records are always accessed one at a time

d. All of the above ✓

The file directory information element that holds information such as the identity of the creator of the file is the: d

a. Access control information element

b. Address information element ✗

c. All of the above ✗

d. Usage information element ✓

In a tree-structured directory, the series of directory names that culminates in a file name is referred to as the: a

a. Pathname ✓

b. None of the above

c. Symbolic name ✗

d. Working directory ✗

Access rights on a file typically are considered to constitute a hierarchy, with each right implying those that: d

a. Succeed it ✗

b. None of the above

c. Supercede it ✗

d. Precede it ✓