|  |  |
| --- | --- |
| Blocked → Ready | Answer 1 |
| Ready → Running | Answer 2 |
|  |  |
|  |  |
| What is Inter-Process Communication?  Select one:    the rest of the options are all wrong    communication between 2 threads of the same process    communication within the process    communication between two processes |  |
| Consider a system with 3 processes with the following parameters:   | **Process** | **Arrival Time** | **Burst time** | | --- | --- | --- | | P1 P2 P3 | 0 2 6 | 10 20 30 |   Assuming there is no context switch at time 0, if using SRT cpu scheduling algorithm, how many times context switch -> cấp CPU cho tiến trình nào đó  Select one:    3    2    1    4  Consider a system with 4 processes with the following parameters:   | **Process** | **Arrival time** | **Burst time** | | --- | --- | --- | | P1 P2 P3 P4 | 0 0 0 0 | 6 8 7 3 |   If using the SJF process scheduling algorithm, the average waiting time of the processes is:  Select one:    3    6    7    8  The instructions, which are not directly executed by the user but need to be passed to the OS, are known as privileged instructions.  Hãy chọn một:  Đúng  Sai  BIOS is a software that consists of input-output functions. These functions are low-level routines that the OS uses to interface with different I/O devices like keyboard, screen, ports, and so on.  Hãy chọn một:  Đúng  Sai  .Direct Memory Access is used for ....  Select one:    All of the mentioned    Low speed devices    High speed devices    Utilizing CPU cycles  [**Clear my choice**](https://utex.hcmute.edu.vn/mod/quiz/attempt.php?attempt=4613997&cmid=1144080&page=7)  An OS is a software that acts as an interface between the users and hardware of the computer system.  Hãy chọn một:  Đúng  Sai  Which word does not indicate the state of a process?  Select one:    new    finished    ready    the rest of the options are all wrong    running  All the privileged instructions, that is, instructions that need to interact with hardware and resources, and therefore passed on to the OS for execution, are known as system calls.  Hãy chọn một:  Đúng  Sai  .What is Operating System ?  Select one:    link to interface the hardware and application programs    all of the mentioned    system service provider to the application programs    collection of programs that manages hardware resources  .[The primary purpose of an operating system is:](https://www.proprofs.com/discuss/q/1412383/the-primary-purpose-of-an-operating-system-is-14jr)  Select one:    To keep systems programmers employed.    To make computers easier to use..    To make the most efficient use of computer hardware.    To allow people to use the computer..  .A parent process calling \_\_\_\_\_ system call will be suspended until children processes terminate.  Select one:    fork    wait    exit    exec  op layer in the layered scheme of operating system is  Select one:    Hardware    Software    User interface    Operating system  The term "aging" refers to  Select one:    keeping track of how a page is swapped in/out memory according to the LRU page replacement algorithm    letting the process sit in memory for a certain amount of time so that it can accurately estimate the number of pages needed.    gradually increase the priority of long-awaited processes in the system to overcome the infinite process blocking    initialization of a process in a multilevel queue without a response.  Multi-programming is the central concept in operating system that originates all other concepts of operating system.  Hãy chọn một:  Đúng  Sai  Multi-tasking systems place more than one job/program/task in the main memory of the system. The jobs here are of a single user working on the system. The jobs are scheduled by time-sharing technique.  Hãy chọn một:  Đúng  Sai  System generation is the process of configuring the OS according to the hardware and other specifications on a particular machine.  Hãy chọn một:  Đúng  Sai  In a time-sharing operating system, when the CPU time allocated to a process expires, what state will the process go from running to?  Select one:    Terminated    Ready    Suspended    Blocked  **Process is also known as**  Select one:    heavy weight process    thread    the rest of the options are not correct    light weight process  Which is not the function of the Operating System ?  Select one:    Application management    Disk management    Virus Protection    Memory management  How does the software trigger an interrupt ?  Select one:    Invoking a system call    Running an interrupt trigger program    Executing a system program    Sending signals to CPU through bus  Match the following pairs of data:   |  |  | | --- | --- | | Scan | Answer 1 | | Round Robin | Answer 2 | | LIFO | Answer 3 | |  | Multi-programmed batch systems place more than one jobs/programs/tasks in the main memory of a batch prepared for same type of jobs and execute them by switching between them.  Hãy chọn một:  Đúng  Sai  Inter-Process Communication  Select one:    allows processes to communicate and synchronize their actions using the same address space    allows processes to communicate and synchronize their actions without using the same address space    The rest of the options are incorrect    allows processes to synchronize only their activity without communication  The state of a process is determined by  Select one:    the operation just performed by the process    current activity of the process    the last activity of the process    the next operation to be performed by the process  The child process completes execution, but the parent keeps executing, then the child process is known as \_\_\_\_\_\_\_\_\_\_  Select one:    Dead    Zombie    Body    Orphan  Exokernel works as an executive for application programs such that it ensures the safe use of resources and allocates them to the applications.  Hãy chọn một:  Đúng  Sai  As a resource manager, operating system controls the user activities, I/O access, and all other activities performed by the system.  Hãy chọn một:  Đúng  Sai  .[Which is built directly on the hardware?.](https://www.proprofs.com/discuss/q/1360029/-is-used-in-operating-system-to-separate-mechanism-from-poli)  Select one:    Application Software.    Computer Environment.    Operating system    Database system  .Restricting the child process to a subset of the parent’s resources prevents any process from \_\_\_\_\_\_\_\_\_\_  Select one:    overloading the system by creating a lot of sub-processes    overloading the system by using a lot of secondary storage    crashing the system by utilizing multiple resources    under-loading the system by very less CPU utilization  .In UNIX, the return value for the fork system call is \_\_\_\_\_ for the child process and \_\_\_\_\_ for the parent process.  Select one:    A Negative integer, Zero    A nonzero integer, Zero    Zero, A nonzero integer    Zero, A Negative integer  Match the following pairs of data:   |  |  | | --- | --- | | Ready → Running | Answer 1 | | Blocked → Ready | Answer 2 |  * **Ready state:** A process is in the ready state when it's waiting for the CPU and all its resources are available. * **Running state:** A process is in the running state when it has been assigned the CPU and is actively executing instructions. * **Dispatch:** The process of selecting a process from the ready queue and assigning it to the CPU is called dispatching. So, when a process transitions from **ready** to **running**, it's due to being **dispatched**. * **Blocked state:** A process is in the blocked state when it's waiting for an event to occur before it can continue execution, such as I/O completion or waiting for another process. * **Wake up:** When the event a blocked process is waiting for occurs, it transitions to the **ready state**. This event is often referred to as "waking up" the process       saves low-priority processes from resource starvation  aging   * **Aging:** This is a technique used in operating systems to prevent **starvation**. It gradually increases the priority of a process that has been waiting for a long time, giving it a better chance of eventually acquiring the resources it needs. This helps ensure that even low-priority processes have an opportunity to run and don't get perpetually starved of resources. * **Starvation:** This occurs when a process is unable to acquire the resources it needs for an indefinite period, effectively preventing it from making progress. * **Paging:** This is a memory management technique used to divide the process's address space into smaller fixed-size units called pages. It doesn't directly address resource starvation. * **Deadlock:** This occurs when a set of processes are blocked, each waiting for a resource held by another process in the set, creating a circular dependency. It doesn't address resource starvation. * **Thrashing:** This refers to a situation where the operating system spends too much time swapping pages in and out of memory, significantly slowing down overall system performance. It doesn't directly address resource starvation.   If the resource is always preempted from the same process,     can happen  .Direct Memory Access is used for ....  Select one:    Utilizing CPU cycles    High speed devices    Low speed devices    All of the mentioned  The CPU transferring from one process/thread to another is called  Select one:    context switch    the rest of the options are correct    process switch    task switch  Which operation is performed by an interrupt handler?  Select one:    All of the mentioned    Loading the current state of the system    Bringing back the system to the original state it was before the interrupt occurred once done handling    Saving the interrupt handling code and executing it | |  |

1. What is the minimum number of memory accesses needed in paging?

2

1. The OS is generally in the any fragmented space memory addresses in the memory.
2. Operating system provides a layered, user-friendly interface
3. System programs are utilities programs, which help the user and may call for further system calls. Yes
4. After receiving an interrupt from an I/O device, CPU \_\_\_\_\_ branches off to the interrupt service routine after completion of the current instruction
5. Process is \_\_\_\_\_An active program

**7.** .Which runs on computer hardware and serve as platform for other software to run on ? Operating system.

1. The process of initializing a microcomputer with its operating system is called

\_\_\_Booting

**9.** .The PID of the terminated child process is returned by which system call? wait

1. An OS is a software that acts as an interface between the users and hardware of the computer system. Yes
2. Short term scheduler is invoked when there is need to perform process scheduling.
3. Multi-user systems place more than one job/program/task in the main memory of the main computer system. The jobs are of different users who are connected through terminals to the main computer. The jobs are scheduled by time-sharing technique. Yes
4. The primary goals of operating system are convenience of the user and best utilization of the hardware. Yes
5. How does the software trigger an interrupt ? Invoking a system call
6. From the user’s viewpoint, the operating system acts as a resource manager, control program, and virtual machine manager. No
7. A system program that sets up an executable program in main memory ready for execution is loader
8. Multi-programmed batch systems place more than one jobs/programs/tasks in the main memory of a batch prepared for same type of jobs and execute them by switching between them. Yes

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1. Hybrid architecture combines the features of microkernel and layered architectures. Yes
2. An OS is a resource manager that in background manages the resources needed for all the applications. Yes
3. From the system’s viewpoint, the operating system presents a friendly environment wherein the user can work efficiently. No
4. Layered architecture provides the modularity wherein there is a defined layer for each group of functionality. Yes
5. An OS is a software that provides a working environment for the applications of users Yes
6. As a resource manager, operating system controls the user activities, I/O access, and all other activities performed by the system. No
7. All the privileged instructions, that is, instructions that need to interact with hardware and resources, and therefore passed on to the OS for execution, are known as system calls. Yes
8. Monolithic systems were not suitable for multi-programming/multi-tasking environments due to the unprotected behaviour of the system. Yes
9. Long term scheduler is invoked when there is need to perform job scheduling.
10. Medium term scheduler is invoked when there is need to swap out some blocked process
11. Multi-programming is the central concept in operating system that originates all other concepts of operating system. Yes
12. The set of instructions needed for booting, that is, to load the OS in RAM is known as initialier. No
13. As a control program, operating system schedules and manages the allocation of all resources in the computer system. No
14. Multi-programming places more than one job/program/task in the main memory. Yes
15. As a virtual machine manager, operating system provides a layer on the actual hardware on which it performs the tasks of the user. And to the user, it seems that all the work done is by the hardware. Yes
16. Shell is the part wherein only essential modules of the operating system are placed. No

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1. BIOS is a software that the OS uses to interface with different I/O devices like keyboard, monitor, ports, and so on. Yes
2. From the system’s viewpoint, the operating system acts as an easy interface between the user and computer system. No
3. Kernel is the part wherein only essential modules of the operating system are placed. Yes
4. The instructions, which are not directly executed by the user but need to be passed to the OS, are known as privileged instructions. Yes
5. Multi-tasking systems place more than one job/program/task in the main memory of the system. The jobs are scheduled by time-sharing technique. Yes

**39.** .In Windows, the primary hard disk drives has the drive letter \_\_\_\_ C

1. System generation is the process of configuring the OS according to the hardware and other specifications on a particular machine. Yes

**41.** Tập hợp các lệnh cầần thiếếtểđ ởkh iộđ ng, nghĩa làểđ ả t iệh điếầu hànhào v

trong RAM được gọi là bộ khởi tạo (initialier). No

1. Exokernel works as an executive for application programs such that it ensures the safe use of resources and allocates them to the applications. Yes
2. Which is not the function of the Operating System ? Virus Protection
3. Operating system is

Select one:

A collection of hardware components

A collection of input-output devices

**All of the options**

A collection of software routines

1. Which is built directly on the hardware? Operating System

**46.**Short-term scheduler is invoked when there is need to perform process

scheduling

**47.**Which Operating System doesn’t support long file names ? MS DOS

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1. Multiprogramming systems Execute more jobs in the same time period.-chắếc chắến
2. The process of initializing a microcomputer with its operating system is called \_\_\_ Booting
3. [The primary purpose of an operating system is :](https://www.proprofs.com/discuss/q/1412383/the-primary-purpose-of-an-operating-system-is-14jr)

To make the most efficient use of computer hardware

1. Which system call creates a new process in Unix? Fork
2. Medium-term scheduler is invoked when there is need to swap out some blocked process
3. Which is the first program run on a computer when the computer boots up ? Operating System
4. Which of the following acts can cause a process to enter the Ready state?

Select one:

It's waiting for its turn at the CPU.

Process that has recently been admitted.

An I/O event has been completed.

*All of the mentioned*

1. What is Operating System ? System service provider to the application programs
2. Top layer in the layered scheme of operating system is User interface
3. Supervisor state is only allowed to the operating system

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1. Which of the following Operating System does not implement multitasking truly **MS DOS**
2. Which of the following Operating systems is better for implementing a Client-Server network Windows 2000
3. \_\_\_\_\_\_ is used in an operating system to separate mechanism from policy

**Two level implementation**

1. The first program that is executed when the computer is switched on is called bootstrap program
2. Which of the following are loaded into main memory when the computer is booted ? internal command instructions
3. What should be the extension to execute files ? Select one:

All

exe

bat

com

1. In terms of operating system, what is the name of the operating system that reads and reacts ? **Real time system**
2. Which Operating System doesn’t support networking between computers ? Windows 3.1
3. Which file keeps commands to execute automatically when OS is started ? autoexec.bat

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1. The operating system which was most popular in 1981 is called CP/M
2. \_\_\_\_\_\_\_\_\_ is technique in which the operating system of a computer executes several programs concurrently by switching back and forth between them? **Multitasking**
3. In Unix, Fork is \_\_\_\_\_ **the creation of a new process**
4. The operating system creates \_\_\_\_\_ from the physical computer **Virtual computers**
5. What is the function of an operating system ?

Select one:

Manages the flow of data and instructions

All

Takes care of scheduling jobs for execution

Manages computer’s resources very efficiently

1. When a process reaches an I/O instruction, it is in the state \_\_\_\_\_ Blocked
2. A type of systems software used on microcomputers is Solaris
3. Which operation is performed by an interrupt handler ? Bringing back the system to the original state it was before the interrupt occurred once done handling
4. Interrupt vector is \_\_\_ **an address that is indexed to an interrupt handler**
5. \_\_\_\_\_ shares characteristics with both hardware and software. Operating System
6. The operating system manages

Select one:

Processes

Memory

Disk and Input/Output devices

All

1. Direct Memory Access is used for .... High speed devices

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1. What is a process's ready state ? **When a process is scheduled to run after a certain amount of time has passed**
2. The operating system OS X has \_\_\_\_\_\_\_\_\_\_\_\_ hybrid kernel
3. If all processes are I/O bound, the ready queue will usually always be

\_\_\_\_\_\_\_ , and the Short Term Scheduler will have a \_\_\_\_\_\_ to complete.

**empty, little**

1. A process may reach an instruction that requires it to wait for I/O devices or another event while it is running. \_\_\_\_\_\_ is its state. Wait state
2. When a process sends out an I/O request, \_\_\_\_\_\_\_\_\_. It is added to an I/O queue
3. The main difference between the short and long term schedulers is\_\_\_\_\_

**The type of processes they schedule**

1. Which of the following statements is not correct? The kernel is made up of several modules that cannot be loaded into an operating system that is already running.
2. When a time slot assigned to a process is completed, the process moves from the running state to the \_\_\_\_ in a time-sharing operating system. Ready State
3. A real-time operating system is which of the following?

Select one:

Windows CE

**All of the mentioned**

VxWorks

RTLinux

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1. Which of the following operating systems is not a real time operating system? Palm OS
2. Each process in UNIX is identified by its \_\_\_\_\_. Process Identifier
3. Which of the following items does not belong in a process queue? PCB Queue
4. Assume a process is "Blocked" while it waits for an I/O service. After the service is finished, it is delivered to the \_\_\_\_\_ Ready state
5. A process in \_\_\_\_\_\_\_becomes ready for execution **ready queue**
6. Which of the following errors will the operating system handle?

Select one:

insufficient paper in the printer

A power outage.

**all of the stated options.**

A network connection failure

1. Each process in an operating system has its own \_\_\_\_\_\_\_.

Select one:

signal handlers and pending alarms.

address space and global variables.

**all of the mentioned.**

open files.

1. When a parent process exits \_\_\_\_\_, all child processes exit as well. This is known as cascading termination. Normally or abnormally

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1. Schedulers are classified using \_\_\_\_\_\_\_ the system's use of them on a regular basis.
2. Which of the following does not cause a running process to be interrupted?

**The process of the scheduler**

1. The fork system call in UNIX returns \_\_\_\_\_ for the child process and

\_\_\_\_\_\_for the parent process. Zero, A nonzero integer

1. Program is a ***passive*** entity while process is ***active***
2. A parent process that makes a system call \_\_\_\_\_\_ will be paused until the child processes finish. Wait
3. Insert 2 missing words to make the statement below correct:

Whenever a new job is entered into the system, it is stored in the

\_\_\_\_\_\_\_\_.\_\_\_\_\_\_\_\_\_ are those that only allow one process to run at a time.

uniprocessing systems

1. What is the difference between a short-term scheduler and a long-term scheduler ? It determines which process should be added to the ready queue.
2. On a context switch between processes, which of the following does not have to be saved? Translation lookaside buffer
   1. Any process that is limited to a subset of the parent's resources is

prevented from \_\_\_\_. generating a large number of sub-processes to

overburden the system

1. Because of \_\_\_\_\_\_\_\_\_\_, a process can be terminated. **mentioned options else**
2. When a process fails, most operating system write the error data to

\_\_\_\_\_\_ a log file is creataed

1. When the event for which the blocked–suspended process was waiting has occurred, its state changes to **ready-suspended**
2. What is the function of a medium-term scheduler? **It swaps out which processes to eliminate from memory**
3. Which of the following need not necessarily be saved on a Context Switch between processes? Translation look-aside buffer
4. **Insert two missing words to make the statement below correct:**

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The\_\_\_\_\_\_\_\_\_\_\_\_schedulers are the CPU schedulers that select a process

from the ready queue and allocate the CPU to one of them. short term

1. **Insert the missing word to make the statement below correct:**

\_\_\_\_\_\_\_\_\_is number of processes that complete their execution per time unit. Throughput

1. The state of a process after it reach an I/O instruction is blocked
2. Insert two missing words to make the statement below correct: The time taken to stop one process and start another running is known as Dispatch Latency
3. Insert 4 missing characters to make the statement below correct:

In\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_scheduling, the process that requests the CPU first

is allocated the CPU first. FIFO

1. Consider a system contains n processes and system uses the round-robin scheduling algorithm, which data structure is best suited for ready queue? Circular queue
2. In a time-sharing operating system, when the time slot given to a process is completed, the process goes from the running state to the Ready state
3. In a time-shared system, Round-Robin CPU scheduling is used. When large time slices are used, the method degenerates into the First Come First Served (FCFS) algorithm.
4. Insert two missing words to make the statement below correct:

Long-term schedulers are the that select processes from the job

queue and load them into memory for execution. Job schedulers

1. Which of the following actions is/are typically not performed by the operating system when switching context from process P1 to process P2? Swapping out the memory image of process P1 to the disk
   1. Insert two missing word to make the statement below correct:

****

In CPU scheduling, time taken for switching from one process to other

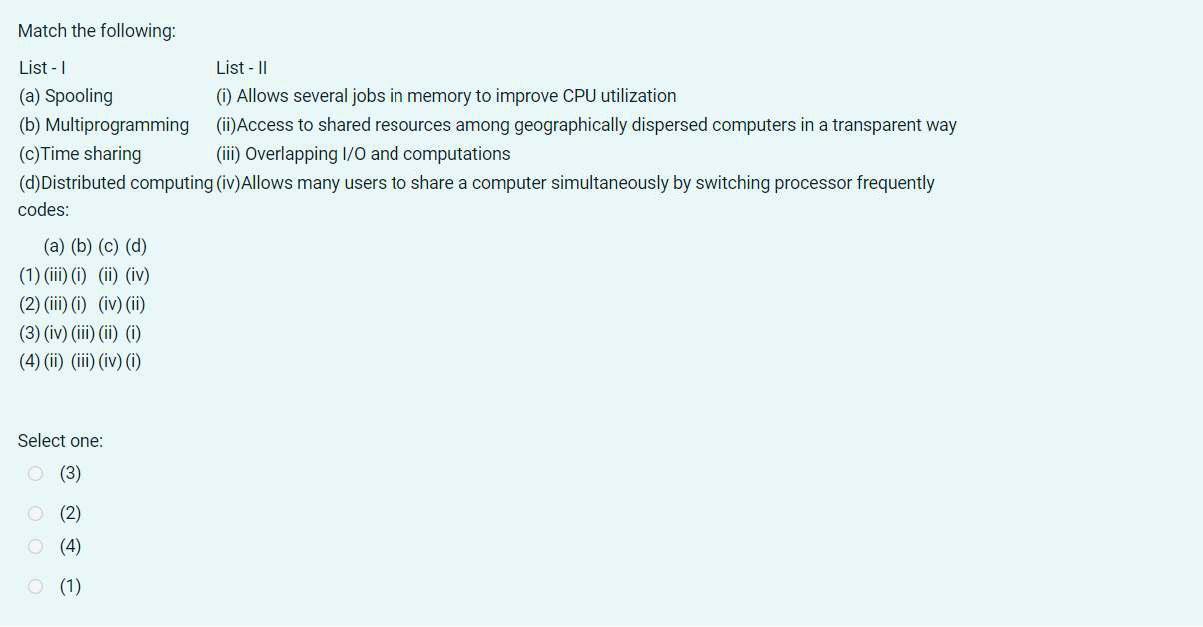
is………………. Pure overhead

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1. Consider a set of n tasks with known runtimes r1, r2....rn to be run on a uniprocessor machine. Which of the following processor scheduling algorithms will result in the maximum throughput? Shortest job first

**122.**

****

(2)

1. In CPU sheduling, the preemptied process is then placed at the back of the\_\_\_\_\_\_\_\_\_ ready queue
2. **Turnaround** time is amount of time to execute a particular process
3. Round Robin schedule is essentially the pre-emptive version of FIFO
4. Which of the following is non-preemptive? FCFS
   1. A process may transition to the Ready state by which of the following actions?

Select one:

Completion of an I/O event

Awaiting its turn on the CPU

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Newly-admitted process

**All of the above**

1. Insert 2 missing words to make the statement below correct:

In CPU sheduling, the preemptied process is then placed at the back of the :

Ready queue

1. The Windows CreateProcess() system call creates a new process. The equivalent system call in UNIX is……………. fork()
2. Insert one missing word to make the statement below correct:

**…………………………**module gives control of the CPU to the process selected by the

short-term scheduler. Dispatcher

1. The processes are classified into different groups in which of following scheduling algorithms? MLQ
2. The performance of Round Robin algorithm depends heavily on **the size of the time quantum**
3. \_\_\_\_\_\_\_ is amount of time a process has been waiting in the ready queue. Waiting time
4. Process is a program in execution
5. If the quantumn time used in the round-robin scheduling algorithm is more than the maximum time required to execute any process, then the algorithm will **become to first come first serve**
6. In CPU sheduling, the preemptied process is then placed at the back of the \_\_\_\_\_ ready queue

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1. A \_\_\_\_\_\_\_ includes information on the process's state. PCB
2. In fixed partitioning, the partition size can be of **fixed as well as variable**
3. Supervisor state is only allowed to the operating system
4. What is the minimum number of memory accesses needed in paging? 2
5. What is the deadlock handling method?

A. Use methods to ensure the system will never enter a deadlock state

B. Allow the system to enter deadlock state and then recover

C. Pretend that deadlock never happens in the system A, B và C

1. If the size of a process is an exact multiple of page size chosen, there will not be any \_\_\_\_\_\_\_\_ fragmentation. **internal and external both**
2. The two types of semaphore are binary and counting
3. What is Operating System ? Select one:

collection of programs that manages hardware resources system service provider to the application programs

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all of the mentioned

link to interface the hardware and application programs

1. What is the semaphore initial value allows only one of many processes to enter its critical section ? 1
2. A system has 3 processes sharing 4 resources of the same type. If each process needs up to 2 resources then deadlock may never happen
3. Every entry of a page in the page table may also have its protection bits. These protection bits are known as access protection bits
4. To avoid race condition, the number of processes that can be concurrently within their critical section is 1
5. If the quantumn time used in the round-robin scheduling algorithm is more than the maximum time required to execute any process, then the algorithm will become to first come first serve
6. What should be the extension to execute files?

Select one: bat

All com exe

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1. Consider the two processes P1 and P2 accessing the shared variables X and Y protected by the binary semaphore S1 and S2 respectively, both initiated by 1. The pseudocode of P1 and P2 are follows:

|  |  |
| --- | --- |
| P1: | P2: |
| while(true){ | while(true){ |
| L1: ...... | L3: ...... |
| L2: ...... | L4: ...... |
| X=X+1; | Y=Y+1; |
| Y=Y-1; | X=Y-1; |
| signal(S1); | signal(S2); |
| signal(S2); | signal(S1); |
| } | } |

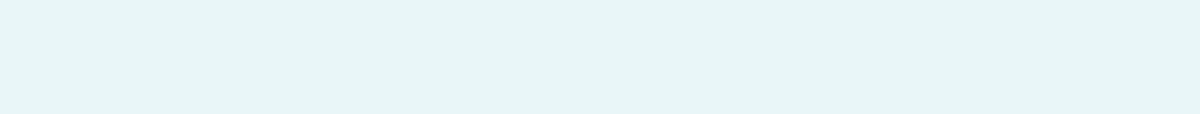
To avoid deadlock, the correct operations at L1, L2, L3, L4 are, respectively?

**wait(S1); wait(S2); wait(S1); wait(S2);**

1. The swap space is reserved in \_\_\_\_\_\_\_\_\_\_ the hard disk

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1. The 'Circular wait' condition can be prevented by Define a linear order of resource types and enter the resource level -sure
2. Which system call returns the PID of the terminated child process?

wait

1. To avoid deadlock

Select one:

All deadlocked processes need to be removed

a set number of allocated resources are required

resource allocation needs to be done only once

only allocate resources to processes holding resources

1. Fixed partitioning is a method of partitioning the memory at the time of \_\_\_\_\_\_\_\_\_\_ system generation
2. *Buddy system* là một sự thỏa hiệp giữa \_\_\_\_\_\_ phần vùng cốế đị nh và phần vùng động
3. In a paging scheme, 16-bit addresses are used with a page size of 512 bytes. If the logical address is 0000010001111101.

The page number is: 2

1. Fixed partitioning method suffers from **both internal and external**

fragmentation

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1. In a time-shared system, Round-Robin CPU scheduling is used When large time slices are used, the method degenerates into the First Come First Served (FCFS) algorithm
2. In a paging scheme, 16-bit addresses are used with a page size of 512 bytes. If the logical address is 0000010001111101. The physical address will be 0001111001111101 , if the frame address corresponding to the computed page number is 15.
3. The requirements for solving a Critical Section problem are:

Select one or more:

mutual exclusion

bounded waiting

progress

1. Whenever a resource allocation request cannot be granted

immediately, the deadlock detection algorithm is invoked. This will help identify: set of deadlocked processes

1. Which of the following is NOT true for plans to prevent and avoid deadlock? In the deadlock prevention, resource requests are always accepted if the resulting state is safe
2. Memory mapping through TLB is known as associative mapping

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1. A memory management unit performs memory-mapping by converting a logical address into a physical address, with the help of

\_\_\_\_\_\_\_\_\_\_ base and limit registers

1. The downside of calling a deadlock detection algorithm for every request is Significant costs during calculation
2. A page table entry provides base address
3. The OS is generally in the none memory addresses in the memory.
4. Belady’s anomaly is observed in the \_\_\_\_\_\_\_ algorithm. FIFO
5. Pages and frames are **equal** in size
6. In a system, there are three processes, P1, P2, and P3, divided into 32, 189, and 65 pages, respectively. If there are 115 frames in the memory, then the proportions in which the frames will be allocated to the processes are 13, 76, 26
7. Larger the page size \_\_\_\_\_\_\_\_\_\_\_\_\_ will be the memory wastage. the

more

1. Which of the following statements is not correct for a solution to a critical section problem? **Processes running outside its critical section may block other processes.**
2. Starvation is a problem that is addressed when considering concurrent processes, which are closely related to deadlock

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1. TLB hit ratio must be \_\_\_\_\_ to decrease the effective memory access time. High
2. There are 128 pages in a logical address space, with a page size of

1024 bytes. How many bits will be there in the logical address?

**Data:**

number of pages = 128

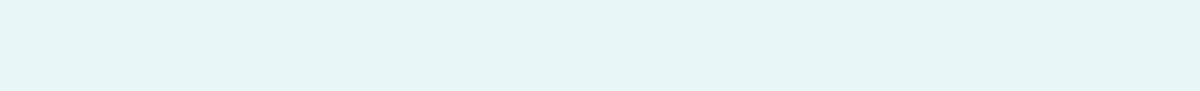
size of page/frame = 1024 word

number of frames = 64

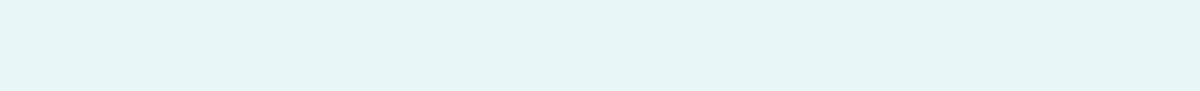
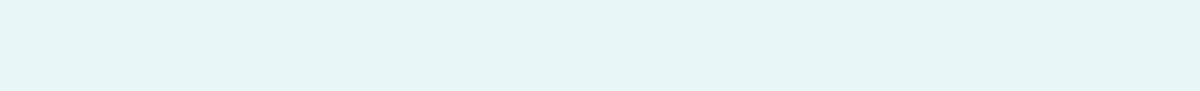
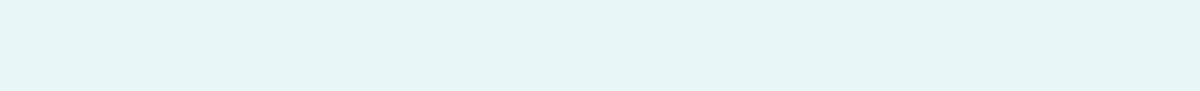
**Calculation:**

size of logical address = number of pages × size of page size of logical address = 128 × 1024 words = 217 words number of bits = log2217 = 17 bits

size of physical address = number of frames × size of a frame size of physical address = 64 × 1024 words = 216 word number of bits = log2216 = 16 bits



1. A buddy system is a compromise between fixed and dynamic partitioning
2. Rather than having the page table entry for a virtual page, \_\_\_\_\_\_ is taken as a page table entry in the inverted page table real page frame
3. A page table must be updated as soon as the virtual address of a page changes
4. A process is said to be thrashing if it spends maximum time in paging rather than its actual execution. False
5. The optimal algorithm is impractical because it is impossible to know the future memory references
6. An LRU can be implemented with three approaches: stack, counter, and matrix. => True
7. The huge size of a page table is handled with the hierarchical page table structure or inverted page table structure. => True
8. ***Thrashing*** take place when Processes frequently access pages not memory

****

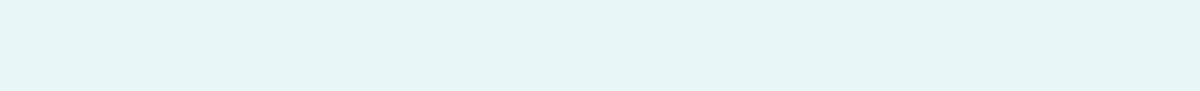
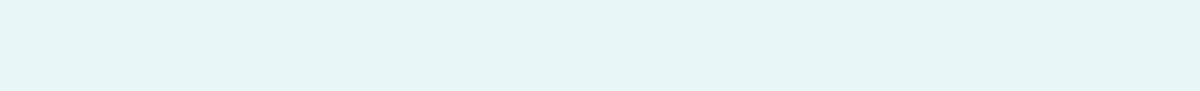
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1. Memory allocation is generally performed through two methods: static and dynamic allocation. => True
2. The virtual address space of a system is of the same size as the physical address space, the operating system designers decide to free the virtual memory entirely. Which one of the following is true? Hardware support is no longer needed from MMU
3. The software implementing the VM system is known as VM handler
4. The collection of user program, data section, stack, and the associated attributes is called the \_\_\_\_\_\_\_\_ process environment
5. Which of the following statements is not correct for a solution to a critical section problem ? Processes running outside its critical section may block other processes
6. *Second chance* is also a page replacement algorithm => True
7. Virtual memory \_\_\_\_\_ is illusion of large primary memory
8. When does a page fault occur? when a requested page isn't in RAM
9. Clock page-replacement algorithm is another implementation of

\_\_\_\_\_\_ second chance

1. \_\_\_\_\_\_\_\_ observes the working set of each process while executing and allocates the number of frames required by it. Operating system
2. In a paging scheme, 16-bit addresses are used with a page size of 512 bytes. If the logical address is 0000010001111101.The offset is 125
3. Suppose there are 4 empty original page frames and the LRU page replacement algorithm is used. If the page reference string is: 29

****

0,1,3,6,2,4,5,2,5,0,3,1,2,5

When the 9th page fault occur, the required page index and data in frames in order are

Page: 3 Frames: 2, 3, 5, 0

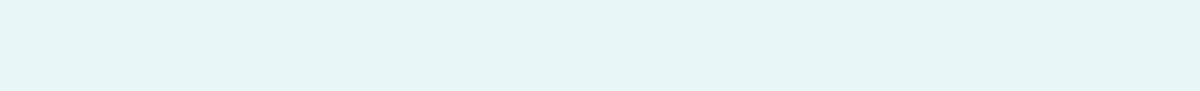
1. process executes with the following page reference string: 1 34323420343123728747272702720702

Taking the working set window size as 10, what will be the working set for the time instant t1, t2, and t3? t1: {0,1,2,3,4}, t2: {1,2,3,4,7,8}, t3: {0,2,7}

1. Operating system is => A collection of software routines

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1. Consider the problem of creating two arrays a and b such that a [i] = f1(i) with 0 ≤ i <n and b [i] = g2(a [i]) with 0 ≤ i <n.

Suppose this problem is separated into two simultaneous processes A and B so that A computes array a and B calculates array b. The processes use two binary semaphores Sa and Sb, both initialized to 0. Array a is shared by the two processes. The code for the process is shown below

A screenshot of a computer

Description automatically generated

ExitA(Sa, Sb) { P(Sb); V(Sa);} EntryB(Sa, Sb) { V(Sb); P(Sa);}

1. When there is more RAM, computer's performance is improved because fewer page faults occur
2. Consider the following system with time quantumn = 2

****

|  |  |  |
| --- | --- | --- |
| **Process** | **Arrival Time** | **Burst time** |
| P1 | 0 | 5 |
| P2 | 1 | 7 |
| P3 | 3 | 4 |
|  |  |  |

The sequence of completion of the processes using the FCFS and RR scheduling is FCFS: P1, P2, P3 RR: P1, P3, P2



1. Consider the following scenario of processes:

|  |  |  |  |
| --- | --- | --- | --- |
| **Process** | **Arrival Time** | **Burst time** | **Priority** |
| P1 | 9 | 16 | 4 |
| P2 | 2 | 10 | 1 |
| P3 | 12 | 2 | 3 |
| P4 | 5 | 28 | 0 |
| P5 | 0 | 11 | 2 |
|  |  |  |  |

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The waiting time of P5 using preemptive priority scheduling is 38

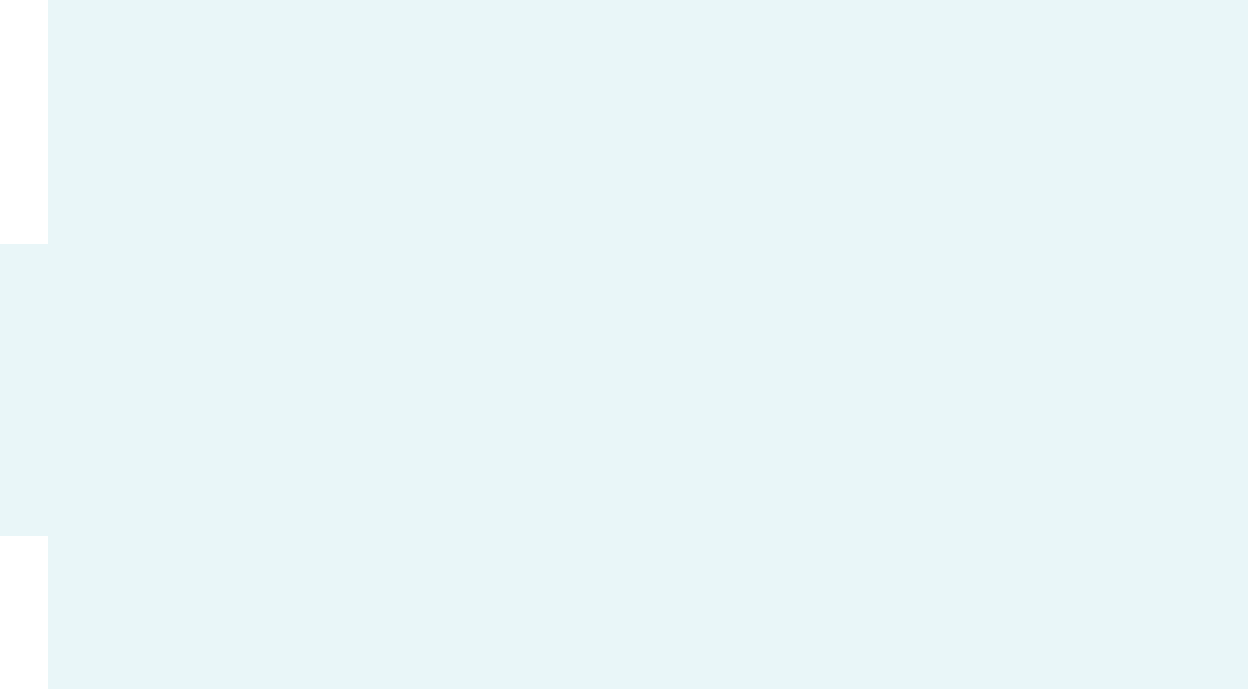
1. Suppose there are 4 empty original page frames. The page reference string is:

0,1,3,6,2,4,5,2,5,0,3

If the CLOCK page replacement algorithm is used, the data in the page frames in order and the victim page at the last requirement are \_\_\_\_

( The asterisk (\*) represents use-bit = 1 )

Frames: 3\*, 4, 5, 0 Victim Page: 2



1. A process is said to be thrashing if it spends maximum time in paging rather than its actual execution Đúng
2. A virtual memory system uses the FIFO page replacement policy and allocates a fixed number of frames to the process. Consider the following statements:

P1: Increasing the number of page frames allocated to a process sometimes increases the page fault rate

P2: Some programs do not show local reference.

Which of the following is correct?

Both P1 and P2 are correct and P2 is not the reason for P1

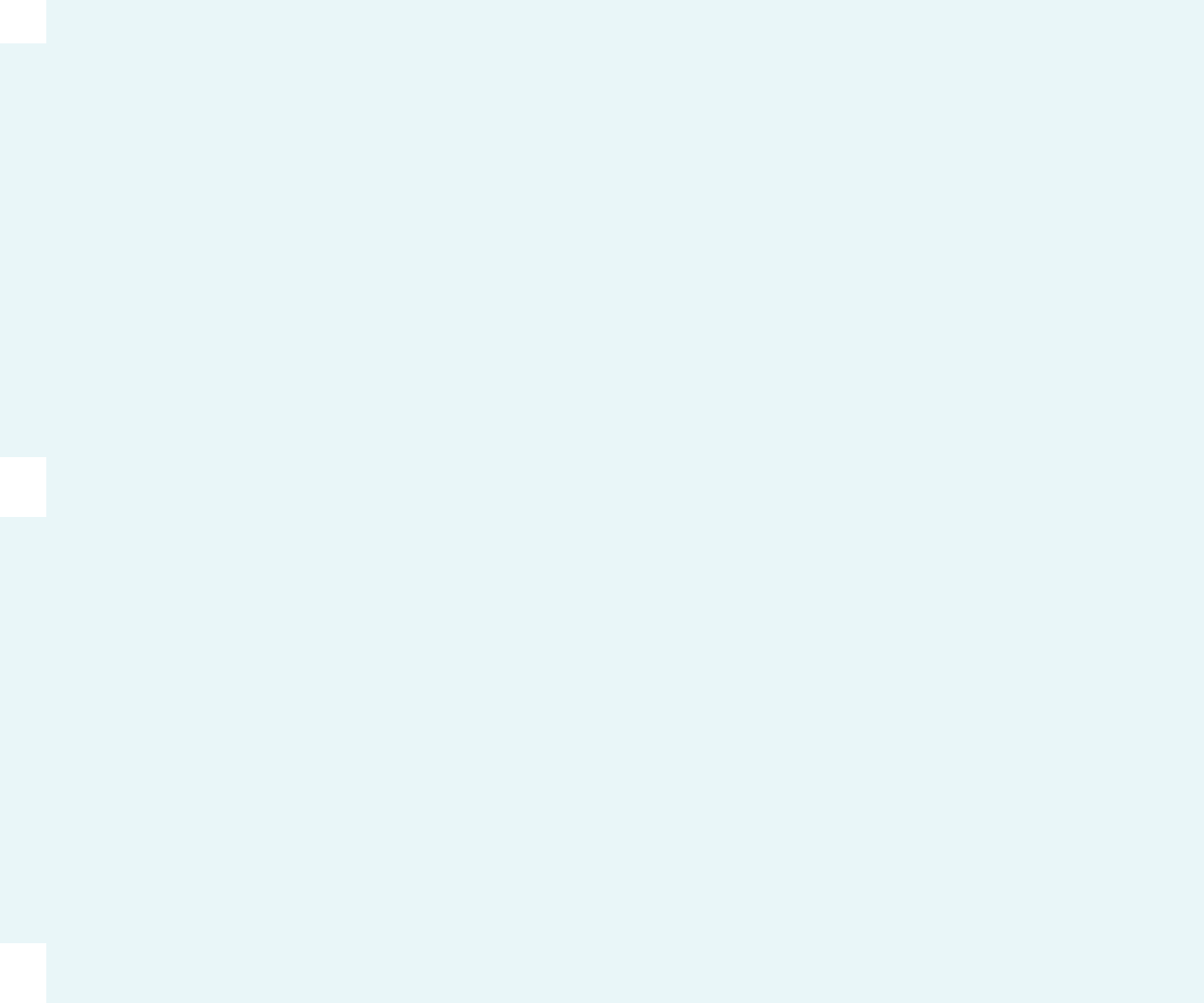
1. Consider the code for P1 and P2 processes to access their critical section whenever needed, as shown below. The initial values of shared boolean variables S1 and S2 are randomly assigned.

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|  |  |
| --- | --- |
|  | **P2:** |
| **P1:** | **while (S1 !=** |
| **while (S1 == S2) ;** | **S2) ;** |
| **Critica1 Section** | **Critica1** |
| **S1 = S2;** | **Section** |
|  | **S2 = not(S1);** |
|  |  |

Which of the following is a statement describing achieved properties? Mutual exclusion but not progress



1. Consider the following system:

|  |  |  |
| --- | --- | --- |
| Process | Arrival Time | Burst time |
| P3 | 2 | 8 |
| P1 | 0 | 5 |
| P4 | 3 | 9 |
| P2 | 1 | 7 |

If preemptive SJF scheduling is performed what will be the average waiting time for the system?

* 75
  1. Consider the following system:

|  |  |  |
| --- | --- | --- |
| Process | Arrival Time | Burst time |
| P0 | 2 | 3 |
| P1 | 3 | 1 |
| P2 | 4 | 2 |
| P3 | 0 | 7 |
| P4 | 1 | 5 |
| P5 | 5 | 1 |

If SRT scheduling is performed what will be the average waiting time of the processes? 4

1. Consider the following scenario of processes:

**Process Arrival Time** **Burst time**

P1 0 8

P2 1 4

P3 2 9

P4 3 5

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f SRTF scheduling is performed, what will be the turnaround time of P3 ? 24

1. Semaphore is a very popular tool used for memory synchronization
2. The disk that contains the boot partition is called a boot disk. The partition that contains the boot code is known as MBR
3. What is the major disadvantage with a linked allocation? there is only sequential access
4. Mapping of network file system protocol to local file system is done by \_\_\_\_\_\_\_\_\_\_\_\_ network file system
5. File type can be represented by \_\_\_\_\_\_\_\_\_\_\_\_ file extension
6. If each access to a file is controlled by a password, then what is the disadvantage? user will need to remember a lot of passwords
7. When will file system fragmentation occur? unused space or single file are not contiguous
8. The file organization module knows about \_\_\_\_\_\_\_\_\_\_\_\_\_

Select one:

physical blocks of files

files

logical blocks of files

all of the mentioned

1. In UNIX, exactly which operations can be executed by group members and other users is definable by \_\_\_\_\_\_\_\_\_\_\_\_\_ the file’s owner
2. In distributed file system \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ directories are visible from the local machine. Remote
3. For each file there exists a \_\_\_\_\_\_\_\_\_\_\_ that contains information about the file, including ownership, permissions and location of the file contents. file control block
4. When a file system is mounted over a directory that is not empty then \_\_\_\_\_\_\_\_\_\_\_\_\_ the system may allow the mount and the directory’s existing files will then be made obscure

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1. To control access the three bits used in UNIX are represented by

\_\_\_\_\_\_\_\_\_\_\_\_\_

Select one:

w

r

x

all of the mentioned

1. When in contiguous allocation the space cannot be extended easily? the contents of the file have to be copied to a new space, a larger hole
2. Protection is only provided at the \_\_\_\_\_ level. Lower
3. What will happens when a process closes the file? system wide entry’s open count is decremented
4. Management of metadata information is done by \_\_\_\_\_\_\_\_\_\_\_\_

logical file system

1. To create a new file application program calls \_\_\_\_\_\_\_\_\_\_\_\_ logical file system
2. Which table contains the information about each mounted volume

mount table

system-wide open-file table

per-process open-file table

all of the mentioned

1. What is raw disk? disk without file system
2. For each file there exists a \_\_\_\_\_\_\_\_\_\_\_ that contains information about the file, including ownership, permissions and location of the file contents. file control block
3. Which one of the following explains the sequential file access method? read bytes one at a time, in order
4. Distributed naming services/Distributed information systems have been devised to \_\_\_\_\_\_\_\_\_\_\_\_\_ provide unified access to the information needed for remote computing

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1. Reliability of files can be increased by \_\_\_\_\_\_\_\_\_\_\_\_\_ by keeping duplicate copies of the file
2. For processes to request access to file contents, they need

\_\_\_\_\_\_\_\_\_\_\_\_\_ to implement the open and close system calls

1. The machine containing the files is the \_\_\_\_\_\_\_ and the machine wanting to access the files is the \_\_\_\_\_\_ server, client
2. In the world wide web, a \_\_\_\_ is needed to gain access to the remote files, and separate operations are used to transfer files. Browser
3. A file control block contains the information about \_\_\_\_\_\_\_\_\_\_\_\_

file ownership

file permissions

location of file contents

all of the mentioned

1. All users in a group get \_\_\_\_\_\_\_ access to a file. Similar
2. What will happen in a multi level directory structure? a mechanism for directory protection will have to applied
3. Domain name system provides \_\_\_\_\_\_\_\_\_\_\_\_\_ host-name-to-network-address translations for the entire internet
4. What if a pointer is lost or damaged in a linked allocation? the entire file could get damaged
5. Disks are segmented into one or more partitions, each containing a file system or \_\_\_\_\_\_ left ‘raw’
6. Which protocol establishes the initial logical connection between a server and a client? mount protocol
7. What is the main problem with access control lists? their length
8. A process \_\_\_\_\_ lower the priority of another process if both are owned by the same owner. Can
9. To create a file \_\_\_\_\_\_\_\_\_\_\_\_ allocate the space in file system & make an entry for new file in directory
10. By using the specific system call, we can \_\_\_\_\_\_\_\_\_\_\_\_

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open the file

read the file

write into the file

all of the mentioned

1. Mapping of file is managed by \_\_\_\_\_\_\_\_\_\_\_\_ file metadata
2. The data structure used for file directory is called \_\_\_\_\_\_\_\_\_\_\_\_ hash

table

1. \_\_\_\_\_\_ is a unique tag, usually a number identifies the file within the file system. File identifier
2. What is the mounting of file system? attaching portion of the file system into a directory structure
3. To recover from failures in the network operations \_\_\_\_\_\_\_\_\_\_\_\_\_

information may be maintained. State

1. In the linked allocation, the directory contains a pointer to which block? Both First block and Last block
2. Metadata includes \_\_\_\_\_\_\_\_\_\_\_\_\_ both file system structure and contents of files
3. By using FAT, random access time is \_\_\_\_\_\_\_\_\_\_ decreased
4. Many systems recognize three classifications of users in connection with each file (to condense the access control list)

Owner

Group

Universe

All of the mentioned

1. Universe consists of \_\_\_\_\_\_\_\_\_\_\_\_\_ all users in the system
2. The machine containing the files is the \_\_\_\_\_\_\_ and the machine wanting to access the files is the \_\_\_\_\_\_ server, client
3. In which type of allocation method each file occupy a set of contiguous block on the disk? contiguous allocation
4. FAT stands for \_\_\_\_\_\_\_\_\_\_\_\_\_ File Allocation Table

.[\_\_\_\_\_\_ shares characteristics with both hardware and software.](https://www.proprofs.com/discuss/q/1360029/-is-used-in-operating-system-to-separate-mechanism-from-poli)

Select one:



None.



Data.



Operating system



Software.

[**Clear my choice**](https://utex.hcmute.edu.vn/mod/quiz/attempt.php?attempt=4618593&cmid=1144080)

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1. A device driver can be thought of like a translator. Its input consists of

\_\_\_\_\_ commands and output consists of \_\_\_\_\_\_\_ instructions. high level, low level

1. Anonymous access allows a user to transfer files \_\_\_\_\_\_\_\_\_\_\_\_\_

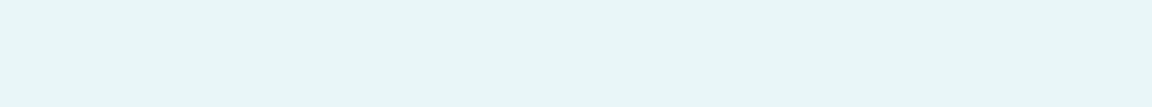
without having an account on the remote system 222222

1. There is no \_\_\_\_\_\_\_\_\_\_ with linked allocation. external fragmentation
2. Suppose there are 4 empty original page frames. The page reference string is:

**A white background with blue and green colors

Description automatically generated with medium confidence**

1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6



When using the LRU page replacement algorithm, how many referenced pages are in and not in the memory, respectively? Khống lựa chọn nào đúng

The advantage of the virtual machine OS is that same hardware is being shared to run different execution environments, that is, multi-programming and time-sharing can be on a single machine.

Hãy chọn một:

Đúng

Sai

Ưu điểm máy ào là cùng 1 phần cúng nhưng có thề chạy cái mội trường khác nhau trên máy đó (đa lập trình và chia sẽ thời gian)

.The child process can \_\_\_\_\_\_\_\_\_\_

Select one:



cannot have another program loaded into it



never have another program loaded into it



be a duplicate of the parent process



never be a duplicate of the parent process

.[Which of the following Operating System does not implement multitasking truly ?](https://www.proprofs.com/discuss/q/1360029/-is-used-in-operating-system-to-separate-mechanism-from-poli)

Select one:



Windows XP



Windows 98.



MS DOS



Windows NT.