Using a larger block size in a fixed block size file system leads to

Select one:

a. better disk throughput and better disk space utilization

b. poorer disk throughput and poorer disk space utilization

c. poorer disk throughput but better disk space utilization

d. better disk throughput but poorer disk space utilization

m' processes share in resources of the same type. The maximum need of each process doesn't exceed in and the sum all the their maximum needs is always less than m + n. In this set up

Select one:

a. deadlock can never occur

b. deadlock may occur

c. deadlock has to occur

d. None of these

... is a memory management scheme that permits the physical address space of a process to be noncontiguous.

Select one:

a. Paging

b. Segmentation

c. main memory

d. Virtual memory

Consider a set of n tasks with known runtimes r1, 12, - m to be run on a uniprocessor machine. Which of the following processor scheduling algorithms will result in the maximum throughput?

Select one!

a. Highest-Response-Ratio-Next

b. Shortest-Job-First

c. Round-Robin

d. First-Come-First-Served

Disk requests come to a disk driver for cylinders 10, 22, 20, 2, 40, 6 and 38, in that order at a time when the disk drive is reading from cylinder 20. The seek time is 6 ms per cylinder. If the scheduling algorithm is the closest cylinder next, then the total seek time will be

Select one:

a. 900 ms

b. 876 ms

c. 850 ms

d. 360 ms

Which of the following is/are the reasons for the process suspension

i) The operating system needs to release sufficient main memory to bring in a process that is ready to execute.

ii) The operating system may suspend a background or utility process or a process that is suspected for causing a problem.

ili) A user may wish to suspend execution of a program for purposes of debugging or in connection with the use of resource.

Select one:

a. ii and iii only

b. All i, ii and iii

c. i and iii only

d. i and ii only

Determine the number of page faults when references to pages occur in the following order : 1, 2, 4, 5, 2, 1, 2, 4. Assume that the main memory can accommodate 3 pages and the main memory already has the pages 1 and 2, with page 1 having been brought earlier than page 2. (LRU algorithm is used)

Select one:

a. None of these

b. 3

c. 4.

d. 5

Working set (t, k) at an instant of time, t, is

Select one:

• a. the set of k reference with high frequency

• b. the set of k future references that the operating system will make

• c. the set of pages that have been referenced in the last k time units

• d. the set of future references that the operating system will make in the next 'K' time units

Which of the following requires a device driver?

Select one:

• a. Cache

• b. Disk

• c. Register

• d. Main memory

A computer system has 6 tape drives, with 'n' processes competing for them. Each process may need 3 tape drives. The maximum value of n' for

which the system is guaranteed to be deadlock free is

Select one:

a. 3

b. 2

c. 4

d. 1

The maximum amount of information that is available with one position of the disk access arm for a removal disk pack (without further movement of the arm with multiple heads) is

Select one:

• a. a plate of data

• b. a cylinder of data

• c. a track of data

• d. a block of data

A system has 3 processes P1, P2, P3 and 3 resources R1, R2, R3. R1 and R3 have 2 units, R2 has 1 unit. P1 holds one unit R1 and 1 unit of R3, and is

claiming 1 unit of R2. P2 holds one unit R1 and 1 unit R2 and is requesting 1 unit of R3. P3 is holding 1 unit of R3 and is requesting 1 unit of R2. Graph

the resource allocation for this case. Does a deadlock exist?

Hãy chọn một:

• Đúng

• Sai

Which of the following are the thread synchronization primitives supported by solaris

i) Mutual exclusion ii) Semaphores iii) Signals iv) Condition variables

Select one:

• a. ii, ili and iv only

• b. i, ii and iii only

• c. Alli, ii, ill and iv

• d. i, ii and iv only

Consider a logical address space of 8 pages of 1024 words mapped into memory of 32 frames. How many bits are there in the logical address?

Select one:

• b. 11 bits

• c. 15 bits

• d. 13 bits

Consider a logical address space of 8 pages of 1024 words mapped into memory of 32 frames. How many bits are there in the physical address?

• b. 11 bits

• c. 15 bits

• d. 13 bits

If there are 32 segments, each of size 1 K byte, then the logical address should have

Select one:

a. 15 bits

b. 16 bits

c. 14 bits

d. 13 bits

giải thích :

There are 32 segments, to represent these segments, 5 bits are required (since 2^5 = 32 ). Having selected a page, to select a particular byte one needs 10 bits (since 2^10 = 1K byte) or we can say,

block offset= 1 Kbytes= 2^10 bytes = 10 bits require for offset

So, totally 5 + 10 =15 bits are needed.

Consider following page trace : 4,3,2, 1,4,3,5,4,3,2, 1,5

Number of page faults that would occur if FIFO page replacement algorithm is used with Number of frames for the Job M=3, will be

Select one:

• a. 101

• b. 9

• c. 12

• d. 8

If a virtual memory system has 4 pages in real memory and the rest must be swapped to disk. Which of the following is the hit ratio for the following page address stream. Assume that memory starts emply. Use the First In First Out (FIFO) algorithm.|

Select one:

a. 25%

b. 10%

c. 31%.

d. 15%

Let m(O]...m[4] be mutexes (binary semaphores) and P[0] .... P[4] be processes.

Suppose each process Pi) executes the following:

wait (mil): wait(m[(i+1) mode 4):

release (m(i)): release (m((i+1)mod 4)):|

This could cause

Select one:

• a. None of these

• b. Thrashing

• c. Deadlock

• d. Starvation, but not deadlock

Giải thích : Deadlock would definitely be there. But other than that Starvation could also occur. One way of thinking this, could be thinking that from P[0] – P[3] are arranged like Dining Philosopher’s problem so they may cause deadlock and starvation both (Because of them, P[4] would also be part of Deadlock and Starvation)

Suppose that you have a 32-bit address with a two-level paging hierarchy and a 4 KB page size. The top-level index table has 1024 entries. How many entries does each partial page table have?

1024

1048576

4194304

262144

In contrast to segmentation, paging:

a.Requires real-time address translation

b.Divides memory into fixed-size chunks.

c.Requires that a process be allocated a contiguous chunk of memory

d.Requires less memory to store memory address translation tables

.. includes actual execution time plus time spent waiting for resources, including the processor.

Select one:

• a. Deadlines

• b. Response time

• c. Turnaround time

• d. Throughput

In which of the following relation, page to replace is chosen from among the frames allocated to that process.

i.Fixed allocation, Local Scope

ii) Fixed allocation, Global Scope

iii) Variable allocation, Local Scope,

iv) Variable allocation, Global Scope

An unpaged or read-ahead cache associates disk domains with the address of the read and continues for a specific length. The major disadvantage of unpaged cache is that

Select one:

a. it allows cache domain to contain redundant data

b. its access time is greater than that of paged caching

c. it does not allow writes to be cached

d. read ahead cache domain blocks are necessarily fixed in size

Consider a virtual memory system with FIFO page replacement policy. For an arbitrary page access pattern, increasing the number of page frames in main memory will

Select one:

• a. Some times increase the number of page faults

• b. Always decrease the number of page faults

• c. Never affect the number of page faults

• d. Always increase the number of page faults

Where does the swap space reside ?

Select one:

a. One chip cache

b. Disk

c. ROM

d. RAM

In a paged segmented scheme of memory management, the segment table itself must have a page table because

Select one:

• a. the processor's description base register points to a page table

• b. segment tables point to page tables and not to the physical location of the segment

• c. each segment is spread over a number of pages

• d. the segment is spread over a number to hit in one page