MEMORY MANAGEMENT. QUIZZES

Which memory management method/s avoid/s the need for external fragmentation and compaction?

1. Segmentation
2. Paging
3. Segmentation and paging
4. None of them

ANSWER: 2

Which of the following alternatives has a page table with a size related to the physical memory?

1. Two-level page table scheme
2. Hashed page table
3. Inverted page table
4. None of these alternatives

ANSWER: 3

The memory management unit (MMU)...

1. Is a hardware device that maps physical to virtual memory
2. Provides hardware support to the OS memory management
3. Is a component present only in Unix like systems
4. None of the answers is correct

ANSWER: 2

What is the roll out, roll in swapping?

1. It consists of swapping all the new processes that arrive to a swap queue.
2. It consists of destroying the current process if a new one with higher priority arrives and swapping the next arrivals.
3. It consists of swapping out the current process if a new one with lower execution time arrives. When this new one finishes the process is swapped back.
4. It consists of swapping out the current process if a new one with higher priority arrives. When this new one finishes the process is swapped back.

ANSWER: 4

Paging is a memory-management scheme that…

1. Involves breaking physical memory into fixed-sized blocks called pages and breaking logical memory into blocks of the same size called frames.
2. Stores the information regarding the allocation details of physical memory (frames allocated, frames available, total frames) in the translation look-aside buffer (TLB).
3. Has the disadvantage of not allowing to share common code, being a drawback for time-sharing environments.

4. When page tables are too large due to a large logical address space, the two-level algorithm can be used to split the page table into smaller pieces.

ANSWER: 4

Select the correct answer regarding the page table:

1. There is one page table per process and it is kept in memory.
2. Two registers are in charge of defining the size of the page table, the base register that contains the initial address and the length register that contains the final address.
3. The page table contains the base address of each page in logical memory and is directly mapped to the physical one.
4. All the previous answers are correct.

ANSWER: 1

Select the correct answer. First-fit storage allocation...

1. produces the smallest leftover hole.
2. allocates the smallest big enough hole.
3. must search the entire memory space before allocating.
4. allocates the first big enough hole.

ANSWER: 4

Which of these Dynamic Storage-Allocation processes allocates the largest hole?

1. First-fit
2. Best-fit.
3. Worst-fit
4. None of the above

ANSWER: 3

Which kind of fragmentations might occur in paging and segmentation?

1. In segmentation we might have internal fragmentation while in paging external fragmentation
2. In segmentation we might have external fragmentation while in paging internal fragmentation
3. We can have both internal and external fragmentation in paging but only internal in segmentation
4. We can have both internal and external fragmentation in segmentation but only internal in paging

ANSWER: 2

Which of the following sentences is false?

1. In pages, the valid-invalid bit is set by the Operating System
2. If a swapping policy uses priority-based scheduling algorithms, it can be called "roll out, roll in

3. For simplicity of implementation for segmentation, segments have all the same size
4. In the variable-partition scheme, initially, all memory is considered a large block of available memory for user processes, also called a hole

ANSWER: 3

Which of these techniques for structuring the page table are also known as forward-mapped page table?

1. Hierarchical paging
2. Hashed page tables
3. Inverted page tables
4. Forward-mapped page table is another technique, not belonging to any of the previous ones

ANSWER: 1

Which of the following are advantages of Dynamic Linking:

1. Smaller file size.
2. Reducer memory program footprint
3. Easier to fix bugs in libraries
4. All of the above

ANSWER: 4

What do we understand as Best-fit strategy when referring to the dynamic storage allocation problem?

1. An algorithm which allocates either starting from the beginning or from the end the first hole which is big enough for our purpose.
2. An algorithm which allocates the largest whole in memory.
3. An algorithm which allocates the smallest hole which is big enough for our purpose.
4. None of the above.

ANSWER: 3

Suppose that base register holds 300040 and the limit register is 120900. Which is the range of addresses that this program can legally access to?

1. A program can access all the memory space
2. Given that the limit register is lower than the base register, this program is not well designed and cannot access any memory address
3. From 300040 through 420940 (both inclusive)
4. From 300040 through 120900 (both inclusive)

ANSWER: 3

One way of protection of memory space for each process is achieved by:

1. The cache memory.
2. Comparing by hardware units every address generated in user mode with base and limit registers.
3. Each process is responsible of that
4. Comparing by the operating system every address generated in user mode with base and limit registers.

ANSWER: 2

How the base and limit registers of process can be changed?

1. Only the Operating System can set these registers
2. The process loads these registers on the beginning of the execution
3. The process can change them during its execution.
4. The registers cannot be changed

ANSWER: 1

A stub is:

1. A small piece of code that indicates how to allocate the appropriate memory resident library routine

2. A piece of code that indicated how to load the library if the routine is not yet present.
3. A Small Tracing Unit Bit
4. A memory address register

ANSWER: 1

Why can contiguous allocation turn into a bad technique?

1. Because it can generate swapping and fragmentation
2. Because it requires a big cache memory size to manage this allocation
3. It is quite expensive in terms of time consumption
4. None of the previous answers are correct

ANSWER: 1

Which kind of fragmentations might occur in paging and segmentation?

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2. In segmentation we might have external fragmentation while in paging internal fragmentation
3. We can have both internal and external fragmentation in paging but only internal in segmentation
4. We can have both internal and external fragmentation in segmentation but only internal in paging

ANSWER: 2

One way of protection of memory space for each process is achieved by:

1. The cache memory.
2. Comparing every address generated in user mode with base and limit registers.
3. The operating system with no hardware involved.
4. Each process itself.

ANSWER: 2

Internal Fragmentation is solved by:

1. Compaction
2. Shuffling memory contents to place all free memory together in one large block
3. Using smaller partition sizes
4. None of the above

ANSWER: 2

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3. An algorithm which allocates the smallest hole which is big enough for our purpose.
4. None of the above.

ANSWER: 3