ⓘ Students have either already taken or started taking this quiz, so take care when editing it. If you change any quiz questions in a significant way, you might want to consider re-grading students' quizzes who took the old version of the quiz.

Points 10 Published ⋮

Details Questions

Show question details

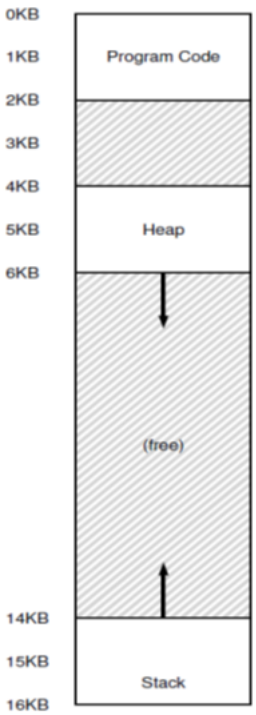
Question 1 pts

How does TLB improve the performance of address translation?

- By eliminating the need for page tables
- By storing frequently used address translations for quick retrieval
- By increasing the size of the main memory
- By reducing the clock cycle time of the CPU

Question 1 pts

Considering the following basic process address space with three segments (code, heap and stack), where will the virtual address of 3072 map to?



Segment	Base	Size
Code	32K	2K
Heap	34K	2K
Stack	28K	2K

Segment Register Values

- Its not a valid virtual address.
- Code segment
- Heap segment
- Stack segment

Question 1 pts

Assuming the following segments information is given to you.

MSB Values	Segment
00	Code
01	Heap
11	Stack

Which segment does the virtual address 136 belong to?

- Code segment
- Heap segment
- Stack segment
- Its not a valid virtual address.

Question 1 pts

What happens when a TLB miss occurs?

- The page table is searched for the required translation
- The TLB is flushed
- The process is context-switched
- The CPU skips the instruction causing the TLB miss

Question 1 pts

In the coalescing process of a free buffer list, what condition triggers the merging of two adjacent free blocks?

- The blocks have the same size
- The blocks are located at different memory addresses
- The blocks are not adjacent in the list
- The blocks have contiguous memory addresses

Question 1 pts

If a virtual address is 32 bits and the page size is 4 KB, how many bits are used for the virtual page number?

- 10 bits
- 12 bits

- 20 bits
- 22 bits

Question 1 pts

In a virtual-to-physical address translation, if the TLB (Translation Lookaside Buffer) has a hit ratio of 90%, what does this imply?

- 90% of the virtual addresses are invalid
- 90% of the virtual-to-physical translations are found in the TLB
- 90% of the physical addresses are in use
- 10% of addresses are found in TLB.

Question 1 pts

Assuming you made a call to malloc(200). How many bytes will actually be allocated?

- 200
- 208
- 204
- 192

Question 1 pts

Paging is slower compared to contiguous memory allocation because?

- The data is stored in non-contiguous regions
- The RAM may be accessed multiple times for a data read.
- The memory is divided into small holes
- The page sizes are too small.

Question 1 pts

In terms of flexibility, which memory allocation technique provides better support for growing data structures?

- Contiguous memory allocation
- Segmentation
- Paging
- None of the above

+ New question + New question group Find questions

Notify users this quiz has changed

Cancel Save