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Courses » Computer Organization and Architecture A Pedagogical Aspect

Announcements Course Ask a Question Progress FAQ

Unit 11 - Week 10: Memory Sub-system Organization

Register for Certification exam

Course outline

How to access the portal

Week 1: Fundamentals of Digital Computer

Week 2: Fundamental of Digital Computer

Week 3: Addressing Modes, Instruction Set and Instruction Execution Flow

Week 4: Addressing Modes, Instruction Set and Instruction Execution Flow

Week 5: Addressing Modes, Instruction Set and Instruction Execution Flow

Week 6: Organization and Optimization

Assignment for Week 10

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-04-10, 23:59 IST.

1) In internal fragmentation, memory is internal to a partition and: ***1 point***

- is being used
- is not being used
- is always used
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
is not being used

2) Consider a system with 32-bit virtual address space. What will be the number of page table entries if the page size is 1KB? ***1 point***

- 232
- 222
- 210
- 242

No, the answer is incorrect.
Score: 0

Accepted Answers:
222

3) Larger page sizes leads to ---------- ***1 point***

- Transfer errors
- Increase in operation time

Increase in access time

4) Which among the following is true? ***0 points***

- The memory allocated to each page is contiguous.
- The offset is different in a virtual address and a physical address
- Logical address space can be smaller than physical address space
- Segmentation avoids external memory fragmentation

No, the answer is incorrect.
Score: 0

Accepted Answers:
The memory allocated to each page is contiguous.

5) Assume that the virtual address space of system is 2^{64} bits and physical memory is 64KB. ***1 point***
If the size of the page is 1KB and page table entry size is 2Bytes, what is the size of inverted page table?

- 252 Bytes
- 251 Bytes
- 64 Bytes
- 128 Bytes

No, the answer is incorrect.
Score: 0

Accepted Answers:
128 Bytes

6) Which among the following will be triggered when a request to the page that is not present in the main memory is accessed? ***1 point***

- Interrupt
- Request
- Page fault
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Page fault

7) A CPU generates 32-bit virtual addresses .The page size is 4KB .The processor has a TLB which can hold 128 entries and is 4-way set associative .The size of the TLB tag is? ***1 point***

- 15
- 11
- 12
- 14

No, the answer is incorrect.
Score: 0

Accepted Answers:
15

8) Page fault occurs when ***1 point***

- a requested page is in memory
- a requested page is not in memory
- a page is corrupted
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
a requested page is not in memory

9) TLB lookup takes 5ns and memory access time is 100ns in a hypothetical system. If the TLB hit ratio is 80%, what will be the effective access time assuming that the system is cache-less? ***1 point***

- 100ns
- 120ns
- 105ns
- 125ns

No, the answer is incorrect.
Score: 0

Accepted Answers:
125ns

10) Consider a paged system with page table stored in virtual memory with virtual address space size of 2^{64} bits. If a memory access takes 128ns, how long does a paged memory reference take? ***1 point***

- 128ns
- 120ns
- 256ns
- 64ns

No, the answer is incorrect.
Score: 0

Accepted Answers:
256ns

Previous Page End