

Quiz 4 (Oct 2, 2025)

Name:

ANSWER

NetID (e.g., ap191):

Please write your answers clearly and keep them brief.

Problem	Score
Question 1	/ 5
Question 2	/ 5
Total	/ 10

1. The computer architecture we have considering in class have 4KB (2^{12} byte) pages. For this question, consider a program P running on this architecture, which executes an instruction to read from address `0xff3210`. Answer the following:

(i) What is the virtual page number that corresponds to this address? [2.5 points]

`0xff3`

(ii) Consider a case where the MMU translates the virtual page number you computed above to the physical page number `0x35`. What physical address does the instruction finally read from? [2.5 points]

`0x35210`

2. Now consider a different architecture where pages are 256 bytes (2^8 bytes) in size. Again consider a case where a program P running on this modified architecture reads from virtual address `0xff3210`. Answer the following:

(i) What is the virtual page number that corresponds to this address? [2.5 points]

`0xff32`

(ii) Consider a case where the MMU translates the virtual page number you computed above to the physical page number `0x35`. What physical address does the instruction finally read from? [2.5 points]

`0x3510`

