

Quiz 2

رقم الشعبة: 1

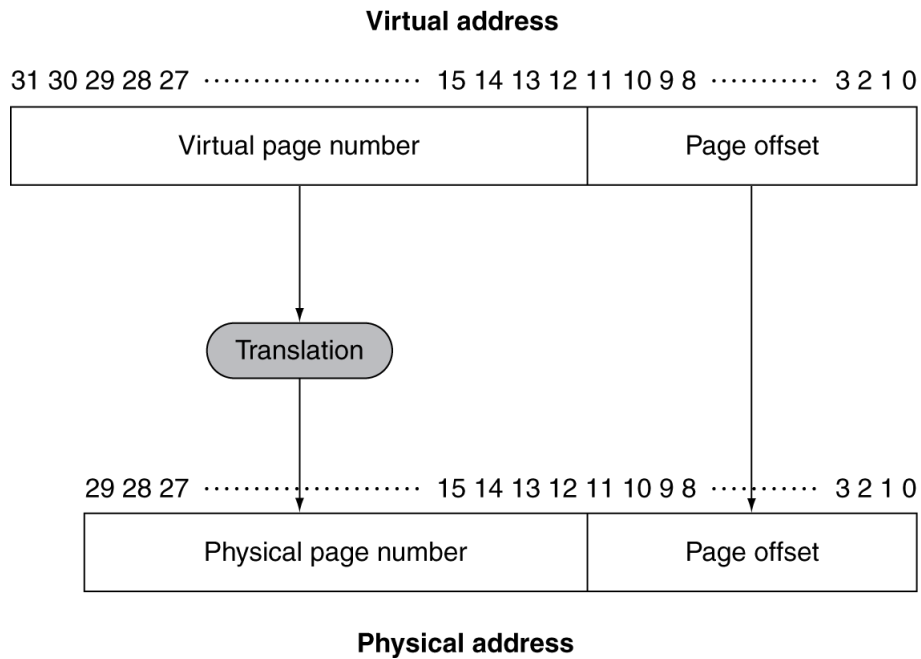
الرقم التسلسلي:

الاسم:

Instructions: Time **10** minutes. Open book and notes exam. No electronics. Please answer all problems in the space provided and limit your answer to the space provided. **No questions are allowed.**

<Good Luck>

Q1. For the following virtual to physical address translation,



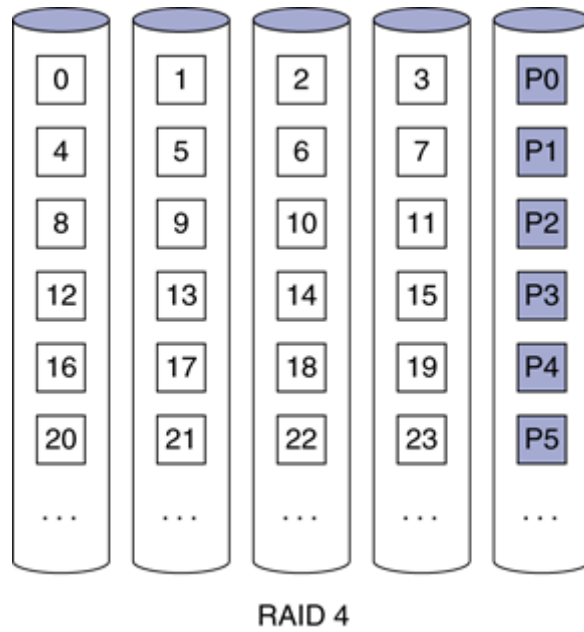
a) how many page table entries are needed to perform all possible translations?

$$\begin{aligned}
 \text{No. of page table entries} &= \text{No. of virtual pages} \\
 &= 2^{20} \\
 &= \text{1 Mega Entries}
 \end{aligned}$$

b) and what is the maximum page table size given that the size of each entry is 4 bytes?

$$\begin{aligned}
 \text{Page table size} &= \text{No. of entries} \times \text{Entry size} \\
 &= 1 \text{ M} \times 4 \\
 &= 4 \text{ MBytes}
 \end{aligned}$$

Q2. The following figure shows a RAID 4 system with five disks and 24 data blocks with their associated parity blocks.



Draw a RAID 5 system of four disks showing 12 data blocks with their associated parity blocks.

