

Operating Systems

OPS Memory Management

Answers

Question 1

Virtual Address	Physical Page	Physical Address
0	2	$8192 + 0 = 8192$
45060	7	$28672 + 4 = 28676$
16384	4	$16384 + 0 = 16384$
21503	3	$12288 + 1023 = 13311$
24576	??	??

Question 2

Twelve bits can represent 4096 (i.e. $2^{12} = 4096$). This is the size (in bytes) of our page table. Therefore, these twelve bits of the address (whether incoming or outgoing) represent the offset within the page. In the example we looked at the top four bits of the virtual address represent the virtual page and the top three bits of the physical address represent the physical page. But, in both cases, the bottom twelve bits represent the offset within the page. Therefore, the offset address can simply be copied.