King Saud University

College of Computer and Information Sciences Computer Science Department

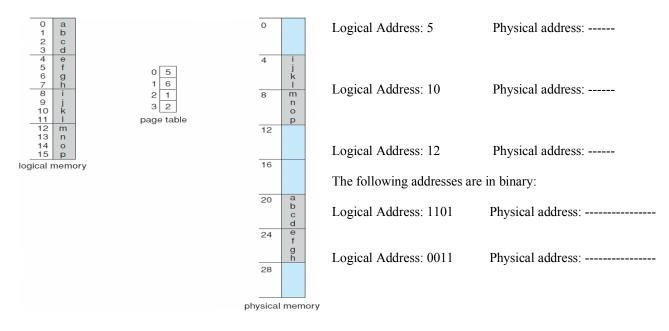
CSC 227: Operating Systems Course Instructor: Dr. Abdullah Alshalan

QUIZ# 5: Main Memory

NA	AME:II	D:	SECTION#:					
Question 1: Given a logical address with the following format:								
	Page #	P	age Offset					
	22-bits		10-bits					
1.	What is the maximum number of pages?							
2.	What is the page size in Kilobytes?							
3.	What is the maximum number of entries in	the page table?						
4.	Given that each entry in the page table required a. How much memory is required		ble in Megabytes?					
	b. How many pages are required to	store the page tabl	le?					

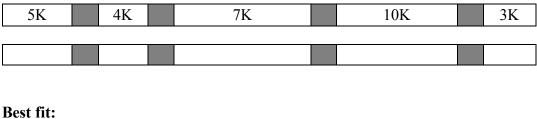
5. Consider a TLB is used where access time to the TLB is 10ns, while access time to physical memory is 200ns. What is the Effective Access Time (EAT) if the hit ratio is 70%.

Question 2: Using standard paging scheme map the following logical addresses to their respective physical addresses where page size is 4 bytes and physical memory is 32 bytes.



Question 3: Given 5 memory holes of 5KB, 4KB, 7KB, 10KB, 3KB (in order), how would the first-fit, best-fit, and worst-fit algorithms will place P1 (requires 6KB), P2 (requires 2KB), and P3 (requires 5KB). Use memory maps given below to answer the question.

First fit:



5K	4K	7K	10K	3K

Worst fit:

5K	4K	7K	10K	3K