

Score: _____

Name: _____

ECE 3055 Quiz 8 - October 22, 2003

Assume a 256-entry direct-mapped TLB is used in a system with 36-bit virtual byte addresses, 32-bit physical memory byte addresses, and 64K byte pages. For the sequence of virtual addresses shown below in hex, state whether each address causes a TLB hit or miss and show the physical address generated. Portions of the initial contents of the TLB and the page table are given. Assume all listed page table entries are valid. Show the final contents of the TLB after this sequence of addresses is accessed.

Virtual address sequence

Address	Hit/Miss	Physical Address
000001012	M	C0001012
000000EE1	H	C0000EE1
000020153	M	55000153
000000171	H	C0000171
000022CE2	H	55002CE2
000023AE3	H	55003AE3

1pt each

TLB Initial Contents

Block	Tag	Data
0	001000	C000
1	002	2000
2	002	F000
3	020	D200

TLB Final Contents

Block	Tag	Data
0	000	C000
1	002	2000
2	000	5500
3	020	D200

1pt each

Page Table Initial Contents

Virtual Page #	Data
00000	C000
00001	F000
00002	5500
00003	3000
...	
00020	7200
00021	2000
00022	F000
00023	D200