CS 310 Intro to Operating Systems **Fall 2022**

Quiz 1

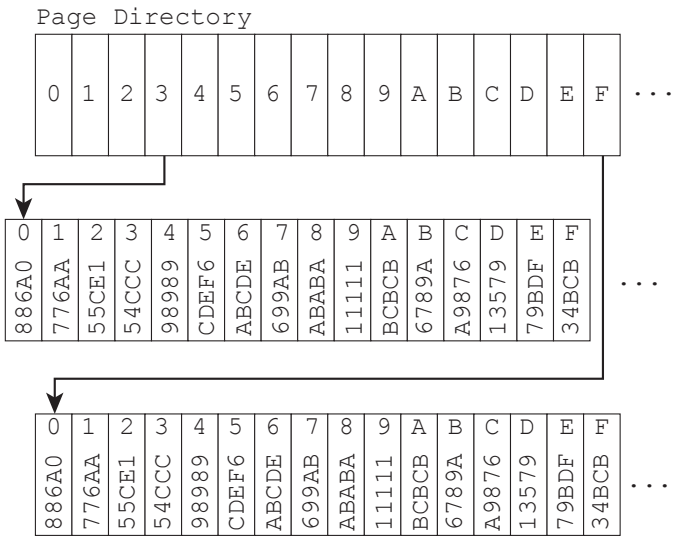
Date: September 30, 2022

Name:

Below I have drawn a stale 16-entry TLB along with a page table. The page table consists of a top-level page directory and two second-level tables. Only two of the second level tables are present (the ones drawn). All the other ones are unmapped.

The table at the bottom of the page gives a stream of address references. Indicate whether each address reference hits or misses on the TLB. If an address reference misses, walk the page table to find the correct mapping and update the page table. Fill out all the blank columns in the address stream. If an address reference hits in the TLB, you don't need to find its page directory index and page table index. But if a reference misses in the TLB, you need to fill out the directory and page indexes.

Index	Tag	Phys Page Number
0	0x03FF	0xAA012
1	0x03CC	0xCC00A
2	0x03CF	0xAB972
3	0x0399	0x68201
4	0x03E5	0xAA012
5	0x03DC	0xCC00A
6	0x03FA	0xAB972
7	0x03D9	0x68201
8	0x03C9	0xAA012
9	0x03C7	0xCC00A
A	0x03E0	0xAB972
B	0x03FE	0x68201
C	0x03EE	0xAA012
D	0x03CE	0xCC00A
E	0x03F4	0xAB972
F	0x03D6	0x68201



Virtual Address	Virtual Page Num	TLB Index	TLB Tag	TLB Hit or Miss?	Page Dir Index	Page Table Index	Physical Page Num	Physical Addr
0x03FF0112								
0x03993200								
0x03C00112								
0x03C02A00								
0x03FEB404								
0x03C00660								
0x03D6F988								
0x03C02000								