Worksheet 10

2/4/2025

12 Points Possible

Attempt 1

2/4/2025

NEXT UP: Review Feedback

Attempt 1 Score: N/A

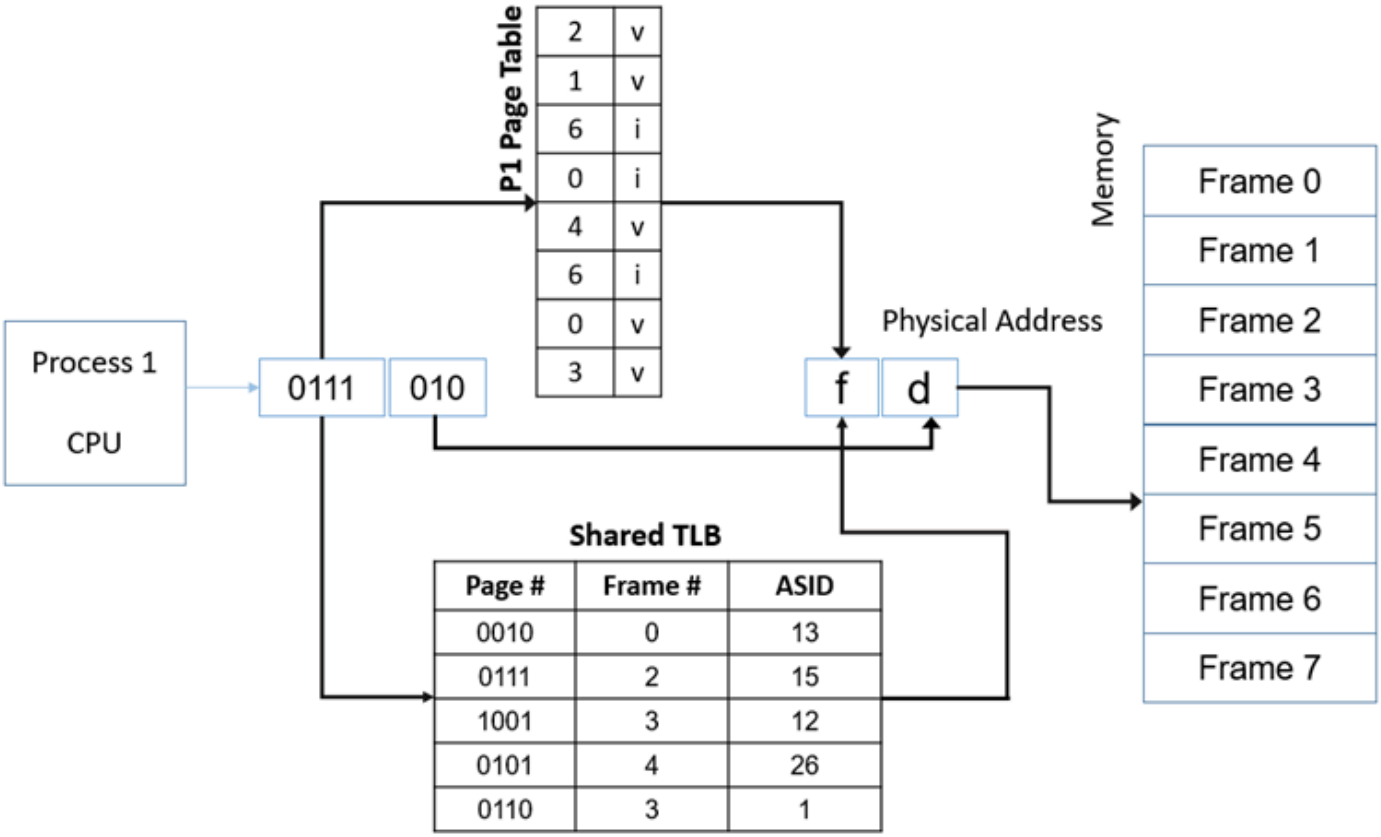
Add Comment

Unlimited Attempts Allowed

Details

Q1: Consider the following system with a logical address size of 128 bytes and a page size of 8 bytes. A process is attempting to access the logical address of 0111010.

A. Will it cause a hit or miss at the TLB? Explain.
B. Will this attempt cause a page fault? Explain.
C. What is the frame number (physical frame address) retrieved?
D. What byte address does the process attempt to access? Explain



Answer:

Answer of Part: (A)
Process 1 trying to access the logical address: 0111 010

If we check the shared TLB for 0111, we will see,
Page# (0111) , Frame# (2) , ASID (15)

We need to match our process 1 with the ASID for the address 0111, which points to process 15, not process 1.
So, this will give us a **TLB miss**.

Answer of Part: (B)
The decimal representation of the address part, 0111 is 7.
If we check the P1 Page Table for entry 7, this is what we will see,
Entry 7 (0111) points to frame 3, which is valid.
So, there is **no Page Fault.**

0	2	v
1	1	v
2	6	i
3	0	i
4	4	v
5	6	i
6	0	v
7 (0111)	3	v

Answer of Part: (C)
The retrieved frame number is **frame 3** according to the page table.

Answer of Part: (D)
The byte address the process is trying to access is **0011 010.**
Here, the first 0011 is for the frame number 3 (binary of 3 is 011) and the later offset part remains the same as 010.