# Worksheet 9

**Due: Sun Feb 2, 2025 11:59pm**

16 Points Possible

Attempt 1

Submitted on Feb 1, 2025 1:41am

**NEXT UP: Review Feedback**

Attempt 1 Score: N/A

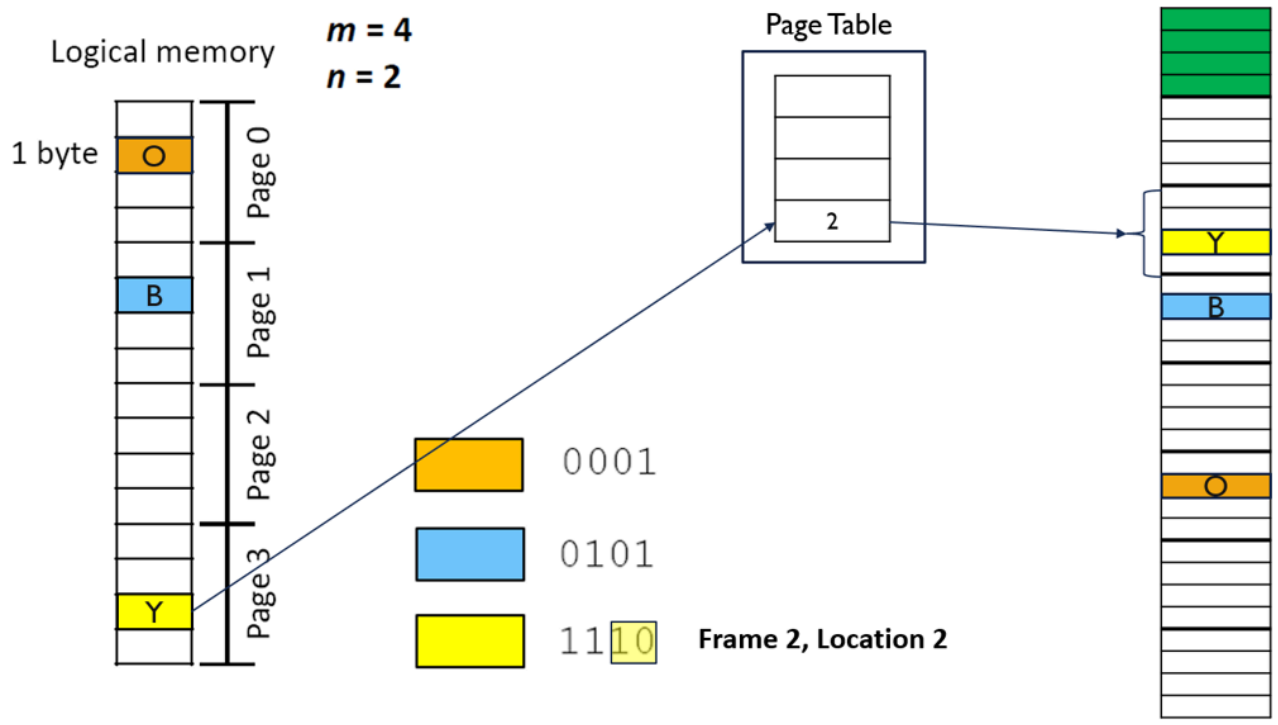
Add Comment

**Unlimited Attempts Allowed**

## Details

**Q1:** Fill up the rest of the page table. List the entries as

Index 0:
Index 1:
Index 2:
Index 3:




**Q2:** Given a 32-bit machine with a page size of 512 bytes. What would be the page table size?

---

**Answer 1:**
Entries of the page table:
**Index 0: 5**
**Index 1: 3**
**Index 2:**
**Index 3: 2**

For orange byte, the address is 0001 (page 00, offset 01)
For blue byte, the address is 0101 (page 01, offset 01)
For yellow byte, the address is 1110 (page 11, offset 10) -> frame 2 (f2)

For the byte location to frame mapping (0-indexed), following the convention of the yellow byte,
Orange byte is in frame 5.
Blue byte is in frame 3.

So, we will map the orange byte (page 00) in index 0 of page table with frame 5.
Hence, index 0 -> 5
We will map the blue byte (page 01) in index 1 of page table with frame 3.
Hence, index 1 -> 3
There is no mapping information on page 10 for index 2 so nothing will be initialized.

**Answer 2:**
Total memory = 32 bits = $2^{32}$ bytes
Page size = 512 bytes = $2^9$ bytes
Number of pages/page table size = Total Memory / Page size = $= 2^{32}/ 2^9 = 2^{23}$