8. A computer system with 16K of main memory has a memory management unit with a page size of 150 and the following page translation table (with all numbers in hexadecimal):

|  |  |
| --- | --- |
| **Logical Address** | **Physical Start** |
| 0000 | 1000 |
| 1000 | 1A00 |
| 2000 | 1F00 |
| 3000 | 800 |
| 4000 | 2C00 |
| 5000 | 0000 |
| 6000 | 2200 |
| 7000 | 3600 |
| 8000 | 3000 |
| 9000 | 3300 |
| A000 | 4160 |
| B000 | 5340 |
| C000 | 8100 |
| D000 | 5100 |
| E000 | 3F00 |
| F000 | 7400 |

1. Indicate the **physical memory location** corresponding to **logical** **address F100**.
2. Indicate the **logical address** corresponding to **physical memory location 1F19**.

**Answer:**

a. The logical address is 100 more than F000. Thus the corresponding physical memory location is 100 greater than the physical address 7400

7400 Hex +100 Hex  =  7500 Hex

b. Physical address (memory location) 1F19 is comprised (in logical address segment 2000) of a starting physical address of 1F00 plus an offset of 19. Thus the corresponding logical address is 19 greater than logical address 2000.

2000 Hex + 19 Hex =  2019 Hex