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| EE463  Operating System Lab.  King Abdulaziz University  Faculty of Engineering - ECE |  | **Lab. #8**  **\_\_ / 10** |

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**Solution**

**Simulator:** pagetrans.py

**Command: python ./pagetrans.py -a 8k -p 512 -r 128k -s 100**

**Solution:**

Virtual Address Trace

|  |  |
| --- | --- |
| VA 0x000006bf (decimal: 1727) → | **RA 0x0000dcbf [VPN= 3]** |
| VA 0x00001e98 (decimal: 7832) → | **RA 0x0001ec98** **[VPN= 15]** |
| VA 0x000011c5 (decimal: 4549) → | **RA 0x0001e5c5 [VPN= 8]** |
| VA 0x00001cd6 (decimal: 7382) → | **Invalid [VPN= 14]** |
| VA 0x00001a2d (decimal: 6701) → | **Invalid [VPN= 13]** |

**Simulator:** pagetablesize.py

**Command: python ./pagetablesize.py -v 32 -e 1 -p 4k**

**Solution:**

Virtual Address (VA) = [Virtual Page Number (VPN) | Offset (D)]

|  |  |  |  |
| --- | --- | --- | --- |
| **VA (bits)** | **VPN (bits)** | **D (bits)** | **pte (byte)** |
| **32** | **20** | **12** | **4096** |

Calculate (Linear Page Table Size) and write the results in the simplest readable form (e.g. byte, KB, MB, GB, and TB)

**Linear Page Table Size = 2 20 \* 1 = 1048576 Bytes = 1024KB = 1 MB**