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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: python3 ./pagetrans.py -a 4k -p 2k -r 16k -s 101**

**Solution:**

Virtual Address Trace

|  |  |
| --- | --- |
| VA 0x00000718 (decimal: 1816) → | **RA** 0x00003718 **[VPN= 0]** |
| VA 0x0000093b (decimal: 2363) → | **RA** 0x0000e93b **[VPN= 1]** |
| VA 0x00001628 (decimal: 5672) → | **RA** Not Valid **[VPN= 0]** |
| VA 0x000006cb (decimal: 1739) → | **RA** 0x000036cb **[VPN= 0]** |
| VA 0x00001f13 (decimal: 7955) → | **RA** 0x00003713 **[VPN= 3]** |

**Simulator:** pagetablesize.py

**Command: python ./pagetablesize.py -v 38 -e 4 -p 4k**

**Solution:**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **VA (bits)** | **VPN (bits)** | **D (bits)** | **pte (byte)** |
| **38** | **26** | **12** | **4** |

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 = 4 x 2^26 = 268,435,456 = 268.44 MB**