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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 1k -r 64k -s 105

**Solution:**

Virtual Address Trace

|  |  |
| --- | --- |
| VA 0x00000568 (decimal: 1384) → | **RA 0xF168 [VPN= 1]** |
| VA 0x00000dc3 (decimal: 3523) → | **RA 0x55C3 [VPN= 3]** |
| VA 0x00000c5d (decimal: 3165) → | **RA 0x545D** **[VPN= 3]** |
| VA 0x00000ebb (decimal: 3771) → | **RA 0x56BB [VPN= 3]** |
| VA 0x00001c32 (decimal: 7218) → | **RA 0x5832 [VPN= 7]** |

**Simulator:** pagetablesize.py

**Command:** python ./pagetablesize.py -v 38 -e 16 -p 1m

**Solution:**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **VA (bits)** | **VPN (bits)** | **D (bits)** | **pte (byte)** |
| **38** | **18** | **20** | **16** |

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 = 218 x 16 = 4194304 bytes = 4 MiB**