EE463
Operating System Lab.

King Abdulaziz University Faculty of Engineering - ECE

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Lab. #8

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Solution

Simulator: pagetrans.py

Command: python ./pagetrans.py -a 8k -p 2k -r 64k -s 109

Solution:

Virtual Address Trace

| VA 0x00001201 (decimal: 4609) → | RA 0x00001A01 [VPN= 2] | | |
|---------------------------------|------------------------|--|--|
| VA 0x0000109A (decimal: 4250) → | RA 0x0000189A [VPN= 2] | | |
| VA 0x00001947 (decimal: 6471) → | RA 0x0000F147 [VPN= 3] | | |
| VA 0x00000E6E (decimal: 3694) → | Invalid | | |
| VA 0x000008CE (decimal: 2254) → | Invalid | | |

Simulator: pagetablesize.py

Command: python ./pagetablesize.py -v 38 -e 2 -p 16k

Solution:

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

| VA (bits) | VPN (bits) | D (bits) | pte (byte) |
|-----------|------------|----------|------------|
| 32 | 20 | 12 | 1 |

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 = 1MB