EE463 Lab. #8

Operating System Lab. King Abdulaziz University Faculty of Engineering - ECE

/ 10

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Solution

Simulator: pagetrans.py

Command: python ./pagetrans.py -a 16k -p 8k -r 128k -s 107

Solution:

Virtual Address Trace

VA 0x00002a19 (decimal: 10777) →	RA 0x0001ea19 [VPN= 1]	
VA 0x00001ee1 (decimal: 7905) →	Invalid [VPN=0]	
VA 0x000013c6 (decimal: 5062) →	Invalid [VPN= 0]	
VA 0x000008d1 (decimal: 2257) →	Invalid [VPN= 0]	
VA 0x00003feb (decimal: 16363) →	RA 0x0001ffeb [VPN= 1]	

Simulator: pagetablesize.py

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

Solution:

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

VA (bits)	VPN (bits)	D (bits)	pte (byte)
38	24	14	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 = 256 MB