EE463 Lab. #8

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

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Solution

Simulator: pagetrans.py

Command: python ./pagetrans.py -a 16k -p 512 -r 128k -s 104

Solution:

Virtual Address Trace

VA 0x000009db (decimal: 2523) →	invalid [VPN= 4]	
VA 0x000000a0 (decimal: 160) →	RA 0x0001bea0 [VPN=0]	
VA 0x00003411 (decimal: 13329) →	Invalid [VPN= 26]	
VA 0x00000f98 (decimal: 3992) →	RA 0x0000a998 [VPN= 7]	
VA 0x000004a0 (decimal: 1184) →	Invalid [VPN= 2]	

Simulator: pagetablesize.py

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

Solution:

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

VA (bits)	VPN (bits)	D (bits)	pte (byte)
38	27	11	2

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 =4096 bytes = 4 KB