EE463
Operating System Lab.
King Abdulaziz University
Faculty of Engineering - ECE

Lab. #8

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Solution

Simulator:pagetrans.py
Command:
python ./pagetrans.py -a 4k -p 1k -r 256k -s 102
ARG seed 102
ARG address space size 4k
ARG real memory size 256k
ARG page size 1k
ARG verbose True
ARG addresses -1
Solution:
Virtual Address Trace

VA 0x000009e1 (decimal: 2529)→	**RA 0x00026DE1 VPN= 2]**
VA 0x0000090f (decimal: 2319)→	**RA 0x00026D0f VPN= 2]**
VA 0x000000b1 (decimal: 177)→	**Invalid[VPN= 0]**
VA 0x0000087b (decimal: 2171)→	**RA 0x00026c7bVPN= 2]**
VA 0x000009ea (decimal: 2538)→	**Invalid[VPN= 0]**

Simulator:pagetablesize.py
Command:
python ./pagetablesize.py -v 38 -e 16 -p 1m
Solution:
ARG bits in virtual address: 38
ARG page size: 1m
ARG pte size: 16
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 = 262,144 bytes →256 kilobytes