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Assignment: address translation

Use this form to complete your assignment. Work alone or with a partner.

Do the homework problems listed at the end of chapter 18 using the paging-linear-translate.py tool.

It will help you practice doing address translations from virtual to physical addresses for a single-level page table system.

Your email address (**hermann@pdx.edu**) will be recorded when you submit this form. Not you? Switch account

* Required

Your Name *

Hermann Yepdjio

Partner's Name (if you worked with a partner)

N.A

Read the README.md file for paging-linear-translate.py and run the tool with the --help switch to see helpful information for the tool *

- [x] check here after you have read the background how-to information about the paging-linear-translate.py tool

Do problem #1. How does page-table size change as the address space grows? As the page size grows? Is it a linear relationship? It's nice that we can make the page table smaller by increasing the page size, but why not use big pages in general? *

page-table size increases linearly as the address space grows.
The page-table size decreases linearly as the page size grows.
using big pages increases the risk for internal fragmentation.

Do problem #2. What happens as you increase the percentage of pages that are allocated in each address space? *

as I increase the percentage, the number of pages that are allocated increases increases. When I reach 75% all the pages in the page table are allocated

Do problem #3. Which of the parameter combinations are unrealistic? Why? *

All the combinations seem realistic to me, because in each of them,
-the physical memory is always bigger than the address space,
-the address space is always bigger than the page size
- all three values (address space, physical memory and page size) are powers of 2

Do problem #4. Use the program to try out some other problems. Can you find the limits of where the program doesn't work anymore? For example, what happens if the address-space size is bigger than physical memory? *

when the address-space size is bigger than physical memory the program does not work and displays an error message saying "physical memory size must be GREATER than address space size (for this simulation)".

Submit