

Chapter19

1. Size of page table = size of address space / pagesize
The page-table size grows linearly as the address space size grows. The page-table size decreases linearly as the page size grows. But really big pages can lead to internal fragmentation of pages, e.g. only one slot is used per page.
2. The number of valid entries in the page table increases as the percentage increases (but not linearly since a single page table entry corresponds to many addresses).
3. The first two are unrealistic because in both two cases, there are only four pages, which means at most four applications can run at the same time.
4. If the address-space size is bigger than physical memory, the simulator will give an error. Another two possible errors: physical memory size must be GREATER than address space size, and physical memory must be a multiple of the pagesize.

Chapter20

1. Cite: <https://stackoverflow.com/questions/69099750/what-is-the-precision-of-the-gettimeofday-function>
“The average microseconds passed between consecutive calls to gettimeofday is usually less than one - on my machine it is somewhere between 0.05 and 0.15.”
Hence, the operation can take about 1 sec to make it precise.
- 2.
3. 5000.
4. We can easily notice the hierarchy of TLB via graphs.
5. We can compile with “gcc -O0 tlb.c -o tlb”
6. We can set the CPU affinity.
7. We can run trial+1 times and drop the result from the first trial.