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OS 2019 Quiz Sheet #5

Problem 5.1: *paging and virtual memory*

(2+2+1+1+1 = 7 points)

- a) Name two advantages of paging compared to segmentation.
- b) Name an advantages and a disadvantages of an inverted page table compared to a regular page table.
- c) What is the loading strategy of a paging system? Name an example.
- d) What is the replacement strategy of a paging system? Name an example.
- e) What is Belady's anomaly?

Problem 5.2: *signals*

(1+2 = 3 points)

- a) What happens if an asynchronous signal arrives and the process is currently blocked in a system call (e.g., the `read()` system call)?
- b) Why are variables manipulated by signal handlers often declared as `volatile sig_atomic_t`? What does the type qualifier `volatile` mean and why do we need the type `sig_atomic_t`?