

## 8. Assignment

### Main Memory

*Issue: June 15—Due: June 22*

**Filing** Send your answers in a plain text email to Alexander and Stefan<sup>1</sup>.

### Exercise 11:

**10 Points**

Upon `fork(2)` a copy of the calling process is created. Since both processes may want to manipulate their copy of the data in different ways, potentially huge memory areas have to be duplicated. If the child is to be replaced via `exec(3)` anyway, or is used for any other minor task (*e.g.* the `timer` function you implemented recently), this is a waste<sup>2</sup> of time and resources.

Using `fork`, `sleep(3)` and `malloc(3)`, write a short (!) program that demonstrates this situation. Use `vmstat(8)` to observe the behavior of your program, and explain your findings.

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<sup>1</sup>`alexander.holupirek@uni-konstanz.de`, `stefan.klinger@uni-konstanz.de`

<sup>2</sup>For the more knowing: Although `vfork(2)` was designed to alleviate the described mess, this exercise is neither about `vfork`, nor `clone(2)`, nor threads!