Computer Systems and -architecture

Retake project

1 Ba INF 2023-2024

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Time Schedule

Projects are solved individually. You will submit a solution for the first six projects from the first semester, with the differences explained in this project description. Covering the first six projects, you submit one report by filling in `verslag.html` completely. **In the report you describe exactly what changes you made after the first semester.** Put all your files in one `tgz` or `zip` archive, as explained on the course's website, and submit your report to the exercises on Blackboard. **The assignment has to be handed in on Wednesday August 14, 2024, 22u00.**

Project

Extend your datapath to support data words (in register and data memory) of **16 bit**. Aside from changes to the datapath itself, this will require changes to:

- ripple-carry adder and carry-lookahead adder

- ALU (and all ALU instructions)

- register and register file

The instruction set of your datapath remains the same. **The other assignments remain the same.**

Make sure you use `Test_2324_zit2.py` for this project. You will have to write new tests that are suited to 16-bit arithmetic. Also make sure you use the 16-bit versions of `ALU_GroupXX` and `SD_GroupXX`. As always, if you have questions about the script, cannot get it to work, or suspect that there is a bug, please contact the teaching assistant.