Faculty of Media Engineering and Technology
Dept. of Computer Science and Engineering
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CSEN 702: Microprocessors
Winter 2021

Project

You are required develop a simulator (in java, C) or any other language you're comfortable with for the Tomasulo algorithm.

- Your simulator should accept inputs (MIPS instructions in assembly format) and show **step by step** how these instructions are executed as well as the content of each reservation station/buffer, the register file and the queue.). The better the interface of your project (CLI, GUI,...) and the UX, the higher the grade. CLI is the minimum required to get a grade.
- The user should input the latency of each type of instruction.
- While evaluating, we should be able to try out any combination of instructions, and your simulator should work.
- Your simulator should include ALU ops (adds, subs, multiply, divide) and loads and stores. You can take any assumptions about the cache latency. Don't worry about the cache misses. Also always consider the effective address is calculated. You can write the instructions as such L.D F2,100 where 100 is the effective address directly.
- Address clashes between loads and stores are not required and they will be considered as extra.

Deliverables:

- A report explaining the steps you did to develop and run and test your code. The report should explain your approach, code structure, and test cases.
- A demo (while evaluating the project with your TA).

Warning:

- **Copying a project (or sharing codes) from the internet or from each other will result in a zero for both parties, the copying and the copied.**
- **It's better to submit a non-complete project than to submit a stolen one.**

Notes and deadlines:

The work should be divided equally among all group members according to the complexity of the project and its content. An equal grade for all group members is not guaranteed. In the evaluation, be prepared for any question. All group members should know how to answer.

Project submission and evaluation: January 2, 2022.