CSE 331: Computer Architecture ()

CSE 331 FINAL PROJECT DEMO RULES

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BEFORE THE DEMO

- **1.** The demo will be online. I will announce 10 mins-slots for two days and you will register to one of the slots when you are available.
- **2.** For each instruction, there should be a test bench which shows the instruction works correctly. Please use $display to show related variable for each cycle. If it is needed, I can ask to follow the waves. For instance:
  - store word: Your test bench needs to show as follows.
  - Before the store instruction : show the given address of the memory, the content in the given address of the memory, the register where the value will be stored, the content of the register before the store instruction
  - After the store instruction: show the register where the value is stored and its content after the store. If you can display how many cycles you did to complete store instruction, it brings you plus points.
- **2.** Write separated test bench for each instruction. This can be practical for you during demo since I want to see each instruction performance. Moreover, the results of the test bench should be put into your report with screen shots with a few sentences explanations (if you need).
- **3. Special test bench-1** A test bench should be designed with the following instructions consecutively. At each step, you have to show the content of the related registers with display:
  - load word from an address of the memory (Ex: lw $1,100($2))
  - add an immediate value to the word (Ex: addi $1,$1, 4)
  - store the word to the same address of the memory (Ex: sw $1,100($2))
- **3. Special test bench-2** A test bench should be designed with the following instructions consecutively. At each step, you have to show the content of the related registers with display:
  - load word from an address of the memory to register 1 (Ex: lw $1,100($3))
  - load word from another address of the memory to register 2 (Ex: lw $2,80($3))
  - make and operation with the contents of register 1 and register 2 (Ex: and $4, $1, $2)
  - (Bonus) if the result of the and operation is less than 1, display "no common bits", otherwise common bits exists. (Ex: slti $5, $4, 1)

DURING THE DEMO

- Please be punctual!
- However, I can be late or early 15 minutes to call you for the demo so be ready before 15 mins from your demo time.
- When your demo time comes, I will call you on Teams. You need to download your project from Teams at the beginning of the demo.
- Solve your technical problems for online call before the demo.
- I may not ask same questions to you and your friends. I may consider your results in your report instead of asking more questions.

- To gain points, you need to answer to my questions correct. If your verilog code works but you cannot answer how the instruction works, you cant get its points.
- You need to memorize every detail of your code. You are responsible about it.