The following is a list of possible questions for our quiz on September 7th. Some of the questions will not be asked in the quiz. All the questions that will appear in the quiz will appear exactly as shown below (however, numeric parameters may be changed). The quiz is closed textbook, closed notes and closed neighbors. Note that the questions, which did not appear in this quiz, still may appear in the exams. You will find a solution for these questions during lectures.

- It is suggested that you bring your calculator (you can use your calculator during the quiz on September 7th).

Part II – the topics from August 31st:

#16: What are “registers” in processors?

Registers are the space holders in a processor, which processors use to hold the data.

#17: How are registers in processors used when a binary executable program is executed?

#18: What is “PC-SPIM”?

PC-SPIM is an emulator, which emulates a MIPS processor for Intel processors by running MIPS instructions using an Intel processor.

#19: Why do we need “jr $31” at the end of an assembly program?

“jr $31” instruction stops a processor from running your program.

#20: What are “system calls” in “MIPS Simulator”?

#21: “li $t0, (1024)” is an illegal instruction (if you try to assemble that instruction using PC-Spim simulator, that instruction will cause a syntax error). What’s wrong?

#22: What is the difference between “li $a0, 1024” and “la $a0, 1024” instructions? Assume that this computer system is a 32-bit system (i.e., all the registers are 32-bit registers and its ALU can deal with up to 32-bit inputs and outputs).
#23: “li $t1, $t0” is an illegal instruction (if you try to assemble that instruction using PC-SPIM simulator, that instruction will cause a syntax error). What’s wrong?