You are taking "Exam" as a timed exam. The timer on the right shows the time remaining in the exam. To receive credit for problems, you must select "Submit" for each problem before you select "End My Exam". **Show Less**

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Part 2: Numeric Entry (5 Marks)

The following question has 5 parts and each part carries 1 mark.

Question 4

5.0 points possible (graded, results hidden)

Suppose Apple Inc. hired you as a developer for their next iteration of the Rosetta binary translator. Your job is to translate the following MIPS assembly codes to RISC-V machine codes. RISC-V is a 32-bit ISA, which uses the following encoding formats:

R-Type:

funct7	rt	rs	funct3	rd	opcode
7 bits	5 bits	5 bits	3 bits	5 bits	7 bits

I-Type:

immediate	rs	funct3	rt	opcode
12 bits	5 bits	3 bits	5 bits	7 bits

Now encode the following MIPS codes to RISC-V machine codes and write the equivalent 8 digit hexadecimal values. For example, if your answer is 0x0123ABCD, only put 0123ABCD in the response box (use all CAPITAL).

`add $t4, $s1, $s0`

[opcode = 51, funct3 = 0, funct7 = 0, $t4 = 12, $s0 = 16, $s1=17]

Give the answer in 8-digit Hexadecimal.

`sub $s7, $s1, $t8`

[opcode = 51, funct3 = 0, funct7 = 32, $s7 = 23, $t8 = 24, $s1=17]

Give the answer in 8-digit Hexadecimal.

`addi $t5, $s1, 5`

[opcode = 19, funct3 = 0, $s1 = 17, $t5 = 13]

Give the answer in 8-digit Hexadecimal.

`addi $t4, $s1, -15`

[opcode = 19, funct3 = 0, $s1 = 17, $t4 = 12]

[opcode = 19, funct3 = 0, $s1 = 17, $t4 = 12]

Give the answer in 8-digit Hexadecimal.

`lw $s1, 8($t9)`

[opcode = 3, funct3 = 3, $s1 = 17, $t9 = 25]

Give the answer in 8-digit Hexadecimal.

Submit You have used 0 of 2 attempts

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