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CMPEN 351
H/W-6 (30 points)
Due: 11:15 AM, Wednesday, Nov. 12, 2025

Using the information in Appendix A (A-51 to A-80) of the textbook, convert the following MIPS assembly instructions to the 32-bit machine language. The full-32 bit instruction must be written in hexadecimal.

1. (8 points) xori $s0, $s1, 0x1234

6 - bit opcode (binary or hex): 001110
5 - bit rs (binary or hex) 10001
5 - bit rt (binary or hex) 10000
Full 32-bit instruction (in hex) 001110 10001 10000 0001,0010,0011,0100

0x3A301234

2. (8 points) addiu $t2, $t3, 0x0040

6 - bit opcode (binary or hex) 001001
5 - bit rs (binary or hex) 01011
5 - bit rt (binary or hex) 01010
Full 32-bit instruction (in hex) 001001 01011 01010 0000,0000,0100,0000

0x256A0040

3. (8 points) slt $s2, $s3, $s4

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6 - bit opcode (binary or hex) 000000
5 - bit rs (binary or hex) 10011
5 - bit rt (binary or hex) 10100
5 - bit rd (binary or hex) 10010
5 - bit shamt (binary or hex) 00000
Full 32-bit instruction (in hex) 000000 10011 10100 10010 00000 100101

0x02749025

4. (6 points) sb $t0, 0x0010($t1)

6 - bit opcode (binary or hex) 101000
5 - bit rs (binary or hex) 01001
5 - bit rt (binary or hex) 01000
Full 32-bit instruction (in hex) 101000 01001 01000 0000,0000,0001,0000

0xA1280010