

CMPUT 229 - Computer Organization And Architecture I

Quiz #1 — Winter 2014

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Name:

CMPUT 229 Honor Code

By turning in the quiz solution for grading, I certify that I have produced the solution in accordance to the academic integrity policies in Section 26.1 of the University of Alberta 2013/2014 Calendar.

Question 1 (5 points):

Assume that register `$s0` contains `0x0000000F`.

What is the value of register `$t0` in hex after the following instructions?

```
andi $t0, $s0 0x0007  
sll $t0, $t0, 2
```

Question 2 (5 points):

Using the tables on the back page of this quiz, give the hexadecimal representation of the following instruction:

```
sub $t1, $t0, $t1
```

NAME	MNEMONIC	FORMAT	OPERATION	OPCODE/ FUNC (hex)
Subtract	sub	R	$R[rd] = R[rs] - R[rt]$	0x00/0x22

NAME NUMBER

Szero	0
Sat	1
Sv0-Sv1	2-3
Sa0-Sa3	4-7
St0-St7	8-15
Ss0-Ss7	16-23
St8-St9	24-25
Sk0-Sk1	26-27
Sgp	28
Ssp	29
Sfp	30
Sra	31

BASIC INSTRUCTION FORMATS

R	opcode	rs	rt	rd	shamt	funct
	31 26 25	21 20	16 15	11 10	6 5	0
I	opcode	rs	rt	immediate		
	31 26 25	21 20	16 15	0		
J	opcode	address				
	31 26 25	0				