Homework 5

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(chapter 2, Kauffman Morgan book)

Assume that registers $s0 and $s1 hold the values 0x80000000 and

0xD0000000, respectively.

**1** What is the value of $t0 for the following assembly code?

add $t0, $s0, $s1

Ans 0x80000000 +0xD0000000= 0x150000000

We cannot store this solution so instead we get $t0= **0x50000000**

**2** Is the result in $t0 the desired result, or has there been overflow ow?

Ans No we did not get a desired result we got **overflow**.

**3** For the contents of registers $s0 and $s1 as specified above,

what is the value of $t0 for the following assembly code?

sub $t0, $s0, $s1

Ans 0x80000000 - 0xD0000000 = **-50000000**

**4** Is the result in $t0 the desired result, or has there been overflow?

Ans there has been no **overflow**

**5** For the contents of registers $s0 and $s1 as specified above,

what is the value of $t0 for the following assembly code?

add $t0, $s0, $s1

add $t0, $t0, $s0

Ans (0x80000000\*2) + 0xD0000000 = 1D0000000

**6** Is the result in $t0 the desired result, or has there been overflow?

Ans There has been **overflow**

**7** Provide the type and assembly language instruction for the

following binary value: 0000 0010 0001 0000 1000 0000 0010 0000two

Ans this may be a R type instruction,

OP(6 bits):000000

RS(5 bits): 10000

RD(5 bits):10000

Shamt(5 bits):00000

Funct(6 bits):100000

**Instruction is add $s0, $s0, $s0**