

## Worksheet #9B – Final Exam Review SPIM Program Analysis

The code sequence on the right is a procedure that performs an analysis. Two instructions are wrong. First correct them, then answer the following questions:

- a. The important result is when the contents of \$t5 are printed. That being the case, what is the program doing?

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- b. What is the resulting number in \$t5?

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- c. What was wrong with the program?

Corrections: \_\_\_\_\_  
\_\_\_\_\_

### Note ASCII Codes:

0x 61 = "a"

0x 65 = "e"

0x 69 = "i"

0x 6f = "o"

0x 75 = "u"

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.text
main: lw $a0,str

      jal look
      move $a0,$t5
      li $v0,1
      syscall

      li $v0,10
      syscall

look: lb $t0,($a0)
      bnez $t0,done
      blt $t0,0x61,adup
      bgt $t0,0x7a,adup
      addi $t4,$t4,1
      beq $t0,0x61,count
      beq $t0,0x65,count
      beq $t0,0x69,count
      beq $t0,0x6f,count
      beq $t0,0x75,count

adup: addi $a0,$a0,1
      j look
count: addi $t2,$t2,1
      j adup
done: sub $t5,$t4,$t2
      jr $ra

.data
str: .asciiz "hello world\n"
```