Sean Mulhall

Computer Org

Homework 4

1. lw $t1, 0(ar1)

add $s0, $zero, $zero #i = 0

add $s1, $zero, $zero #s = 0

for: beq $s0, $a1, return

add $t0, $t1, $t1

add $t0, $t0, $t0

add $t0, $t0, $s1

add $t1, $t1, $t0

j for

add $a0, $zero, $t1

return:addi $v0, $zero, 1

syscall

2.

lw $s0, 0($a1) #base address of ar1

lw $s1, 0($a2) #base address of ar2

add $s2, $zero, $zero # I = 0

for: beq $s2 $a3, endfor #i < n

slti $t1, $s1, 0

add $t2, $s2, $s2

add $t2, $t2, $t2

add $t3, $t2, $s0

lw $s0, 0($t3)

add $t2, $t2, $s1

lw $s1, 0($t2)

beq $t1, $zero, else

addi $s1, $zero, 1

sw $s1, 0($t2)

addi $s2, $s2, 1

j for

else: add $s1, $zero, $zero

sw $s1, 0($t2)

j for

endfor:-------

3.

f1: addi $sp, $sp, -4

sw $s0, 0($sp)

addi $s1, $zero, 1 #i = 1

add $s2, $zero, $zero #s = 0

for: slt $t2, $a2, $s1 #b > i

bne $t2, $zero, endfor

add $s2, $s2, $a0

addi $s1, $s1, 1 #i++

j for

endfor:

lw $s0, 0($sp)

addi $sp, $sp, 4

jr $ra

f2: addi $sp, $sp, -4

sw $s0, 0($sp)

addi $s1, $zero, 1 #i = 0

lw $s2, 0($a0)

slt $t0, $s1, $a1 #i < n

beq $t0, $zero, endfor

add $s3, $s1, $s1

add $s3, $s3, $s3

add $s3, $s3, $s1

lw $s4, 0($s3)

jal f1