ECE154A — Discussion 03

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Keep your eyes open for...

- PSet 2: due Friday, October 22
- Lab 2: due Friday, October 22

Mystery Code!

```
0x00000004      main:   li $a0, 1
0x00000008              jal mystery
0x0000000c              addu $a0, $0, $v0
0x00000010              jal mystery
0x00000014              addu $a0, $0, $v0
0x00000018              jal mystery
0x0000001c              addu $a0, $0, $v0
0x00000020              jal mystery
-------------------------------------------
0x80000004      mystery: lui $t0, 0xffff
0x80000008              lui $t2, %Hi(mystery)
0x8000000c              ori $t2, %Lo(mystery)
0x80000010              addiu $t1, $0, 0
0x80000014              andi $a0, $a0, 0xffff
0x80000018              add $v0, $a0, $t1
0x8000001c              lw $t3, 12($t2)
0x80000020              and $t3, $t3, $a0
0x80000024              or $t3, $t3, $a0
0x8000002c              sw $t3, 12($t2)
0x80000030              jr $ra
```

What does it do? After 1 run? 2? N?

More MIPS decoding: from MT1-FA2016

```
        addi $v0 $zero 0
loop:   addi $t0 $a0 1
        add $v0 $v0 $t0
        srl $a0 $a0 1
        bne $a0 $zero loop
```

Translate this code to C, and explain what it's doing. What's the best-case and worst-case runtime?