

Monday, March 14

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6.035 Spring 2016

Miniquiz #14

5 minutes

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Consider the following unoptimized code:

```
func_F: // A function func_F
    // has a single parameter passed in register rdi

    enter $(8*3), $0 // function prologue
        // sets stack for local variables

    movq $0, -8(%rbp)
    movq $0, -16(%rbp)
    movq $0, -24(%rbp)

    movq %rdi, -8(%rbp)
    movq $1, %r10
    movq %r10, -16(%rbp)
    movq -8(%rbp), %r10
    movq %r10, -24(%rbp)

    movq -16(%rbp), %r10
    addq %r10, -24(%rbp)
    movq -24(%rbp), %rax

    leave // function epilogue
    ret // returns to the caller function
```

Write down the Decaf source code that corresponds to func\_F:

Write down the optimized assembly code for this function: