

Monday, October 7

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6.035 Fall 2019

Miniquiz #19

5 minutes

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Consider the following unoptimized code:

```
func_F: // A function func_F
        // has a single parameter, say, 'x', passed in register rdi

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

        movq $0, -8(%rbp) // variable a
        movq $0, -16(%rbp) // variable b
        movq $0, -24(%rbp) // variable c

        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 // return value stored in %rax

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

Write down the Decaf source code that corresponds to func.F: