

Monday, October 17

Name _____

Email _____

6.035 Fall 2016

Miniquiz #14

5 minutes

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: