

Thursday, October 29

Name SOLUTIONS

Email 6.818-www@mit.edu

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Miniquiz #21

5 Minutes

1. Generate x86-64 assembly code for the MITScript function below. Assume the caller used `%rdi` to pass the argument's value to the function, `%rax` for the return value, `%rsp` for the stack pointer, and `%rbp` for the base pointer. You may also assume that all values (including arguments, local variables, and return values) are unboxed integers.

```
fun(x) {  
    y = x + 7;  
    return y * 2;  
}
```

```
_function1:  
  
    push    %rbp  
    mov     %rsp, %rbp  
    sub     $8, %rsp  
  
    mov     $7, %rax  
    add     %rdi, %rax  
    mov     %rax, -8(%rbp)  
  
    mov     -8(%rbp), %rax  
    mul     $2, %rax  
  
    mov     %rbp, %rsp  
    pop     %rbp  
    ret
```