

Wednesday, March 7

Name \_\_\_\_\_ Solutions \_\_\_\_\_

Email \_\_\_\_\_ 6.s081-www@mit.edu \_\_\_\_\_

6.s081 Spring 2018

Miniquiz #15

5 Minutes

Given the following program:

```
foo = fun(x) {
  return x - 4;
};
y = foo(7);
```

Fill out the information that's present in the MITScript VM before the red instruction is executed:

IP	OP	LOCALS
7		
	7	

GLOBALS
foo
y

IP	OP	LOCALS
2	7	x = 7
	4	

**HEAP**  
closure { foo: , ctx: [] }

```
function {
  functions = [ ],
  constants = [None, 0, 7],
  names = [foo, y],
  instructions = [
    load_const 1
    load_func 0
    alloc_closure
    store_global 0
    load_global 0
    load_const 2
    call 1
    store_global 1
    pop
    load_const 0
    return
  ]
}
```

```
function {
  local_vars = [x],
  constants = [None, 4],
  instructions = [
    load_local 0
    load_const 1
    sub
    store_local 1
    load_local 0
    return
  ]
}
```

