


Exercise 5.2.

Use the register-machine language to describe the iterative factorial machine of exercise 5.1.

Answer.

The factorial machine is described as follows:

```
(controller
  (assign product (const 1))
  (assign counter (const 1))
  test-counter
    (test (op >) (reg counter) (const n))
    (branch (label factorial-done))
    (assign product (op *) (reg product) (reg counter))
    (assign counter (op +) (reg counter) (const 1))
    (goto (label test-counter))
  factorial-done)
```

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Email address: informlarry@gmail.com