

Exercise 1.34. Suppose we define the procedure

```
(define (f g)
  (g 2))
```

Then we have

```
(f square)
4
```

```
(f (lambda (z) (* z (+ z 1))))
6
```

What happens if we (perversely) ask the interpreter to evaluate the combination `(f f)`? Explain.

Answer. To see is to believe! Just try it through the interpreter:

```
(f f)
;The object 2 is not applicable.
```

As we've witnessed, an error occurred when we attempted to evaluate `(f f)`. To illustrate it, let's first trace the evolution of the process by using *substitution-model*:

```
(f f) ;; Applied the latter argument to 2
(f 2)
(2 2)
```

It turned out to be the case where the interpreter tried to apply number 2—a self-evaluating primitive, which is not applicable—to an argument. Hence, arose the odd phenomenon.

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