SUBSTITUTION MODEL

As defined in *SICP 1.1.5*, the substitution model is a way of understanding procedure application:

“To apply a compound procedure to arguments, evaluate the body of the procedure with each formal parameter replaced by the corresponding argument.”

**Question 1a.** What is a “compound procedure”?

**Question 1b.** If it’s not a compound procedure, then what is it called?

**Question 2.** Assume the following definition of factorial:

```
(define (factorial n)
  (if (= n 1)
     1
     (* n (factorial (- n 1)))))
```

Use the substitution model to calculate `(factorial 4)`.

Make sure to write out all the steps! That is the point of the substitution model.
Question 3. Perform the same exercise – (factorial 4) – for this definition of factorial:

(define (factorial n)
  (fact-iter 1 1 n))

(define (fact-iter product counter max-count)
  (if (> counter max-count)
    product
    (fact-iter (* counter product)
                (+ counter 1)
                max-count)))