SCALE LIST

From the book\(^1\), consider the following procedure, which “scales each number in a list by a given factor”:

\[
\text{(define (scale-list items factor)}
\begin{align*}
\text{ (if (null? items)} & \text{'}() \text{)} \\
\text{ (cons (* (car items) factor)} & \text{(scale-list (cdr items) factor)))}
\end{align*}
\]

**Question 1.** Using the Substitution Model, write out the result of evaluating the following:

\[
\text{(scale-list (list 1 2 3 4) 10)}
\]
**Question 2.** Here is the `scale-list` procedure again:

```scheme
(define (scale-list items factor)
  (if (null? items)
      ()
      (cons (* (car items) factor)
            (scale-list (cdr items) factor))))
```

Rewrite it so that it uses an iterative recursion. Use a helper function.