Clicker Questions
September 13
Is this function tail-recursive?

(define prod (lambda (vec acc)
    (if (null? vec) acc (* (car vec) (prod (cdr vec) acc))))

A. Yes because it uses an accumulator
B. Yes because the last thing it does is to recurse
C. No because it doesn't recurse on a tail
D. No because it modifies the result of its recursive call
Answer D: It is not tail recursive because it modifies the result of its recursive call:

\[
(* \ (\text{car} \ \text{vec}) \ (\text{prod} \ (\text{cdr} \ \text{vec}) \ \text{acc}))
\]

recursion
If L is the list '[(1 3 (5 7) (2 4 (6)))] what is (cons (car L) (cdr L))? 

A. An error.  
B. L  
C. (1 3 5 7 2 4 6)  
D. (1 3 5 7 (2 4 (6)))
Answer B: For any non-null list (cons (car L) (cdr L)) is L itself.