; Scheme replace program

; usage: (replace source search-for replace-with)

(define (copy src)

(if (null? src)

'()

(if (list? src)

(cons (car src) (copy (cdr src)))

src

)

)

)

;------------COPY TEST

(newline)

(display '"(copy '()) is ")

(display (copy '()))

(newline)

(display '"(copy '(1)) is ")

(display (copy '(1)))

(newline)

;-----------------------------

(define (replace source target alternative)

(if (null? source)

()

(if (list? target)

(if (list? source)

(if (equal? source target)

(copy alternative)

(if (null? (cdr source))

(copy (list (replace (car source) target alternative)))

(copy (append (list (replace (car source) target alternative))

(replace (cdr source) target alternative)

))

)

)

(copy source)

)

(if (list? source)

(if (null? (cdr source))

(copy (list (replace (car source) target alternative)))

(copy (append (list (replace (car source) target alternative))

(replace (cdr source) target alternative)

))

)

(if (equal? source target)

(copy alternative)

(copy source)

)

)

)

)

)

;----------------------------------------

; New version works with the same test suite.

;----------------------------------------