;; Calculation of Hofstadter's male and female sequences as a list of pairs

(define (hofstadter-male-female n)

(letrec ((female (lambda (n)

(if (= n 0)

1

(- n (male (female (- n 1)))))))

(male (lambda (n)

(if (= n 0)

0

(- n (female (male (- n 1))))))))

(let loop ((i 0))

(if (> i n)

'()

(cons (cons (female i)

(male i))

(loop (+ i 1)))))))

(hofstadter-male-female 8)

(define (find-first func lst)

(call-with-current-continuation

(lambda (return-immediately)

(for-each (lambda (x)

(if (func x)

(return-immediately x)))

lst)

#f)))