1. Consider the following expression:

(let ((g (lambda (f x) (f x)))
  (a 2))
(let ((f (let ((a 3)) (lambda (y) (+ a y))))
  (g f (let ((a 10)) 100) ) )

(a) This expression will evaluate to what value using the Scheme interpreter?

(b) Now assume applicative order evaluation and dynamic scope. To what value will the above expression evaluate?

2. Consider the following Scheme expression:

(let ((a 0) (f (lambda (x) (set! x 1)))))
(begin (f a) a )

(a) What will this evaluate to?

(b) By way of explanation, draw step-by-step diagrams showing the environment and the state of the store as the operations specified in the above expression are completed.
3. Write as short a Scheme expression as you can, without using print statements, to find out whether $E_1$ or $E_2$ is evaluated first in the Scheme expression $(\text{cons } E_1 \ E_2)$. Explain how you expect it to do the job.