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ICS 313

Quiz #7, 8

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Quiz #7:

Write a recursive lisp function that determines if two lists are the same.

Answer:

```
(defun are-same (x y)
      (if (and (null x) (null y))            ; base case 1
            (return-from are-same T))         ; return True
      (if (not (equal (length x) (length y)))  ; base case 2
            (return-from are-same nil))       ; return Nil

      (if (not (equal (pop x) (pop y)))        ; recursive call
            (return-from are-same nil)         ; if not equal, return
            (return-from are-same (are-same x y))))
```

Quiz #8:

Write a lisp function that recursively counts the number of 0's in a list.

Answer:

```
(defun count-zero (L)
      (if (null L)                         ; base case
            (return-from count-zero 0))     ; if L is empty, return

      (if (= (pop L) 0)                     ; recursive calls
            (+ 1 ( count-zero L))            ; plus 1 if pop out a 1
            (count-zero L)))                ; otherwise just call
```