Quiz 1a

1. (3 points)

(define (proc a)

(if (> a 3) (+ a a) (+ a a a)))

(proc (\* 4 5))

How many times is \* invoked ...

In applicative order? \_\_\_\_\_\_\_\_

In normal order? \_\_\_\_\_\_\_\_\_

In actual Scheme? \_\_\_\_\_\_\_\_\_

1. (3 points) You're a bureaucrat at the CIA. Someone has filed a Freedom of Information Act request for some of your secret documents. Your plan is to release the information, but with all the numbers blanked out, so that for a sentence such as

We have 43 tanks ready to roll at 6 pm tomorrow

you'll release this version:

We have OMITTED tanks ready to roll at OMITTED pm tomorrow

Write a procedure called cia that takes a sentence as its argument and returns the censored version as in the example above.

Don't worry about capital versus lower case letters! Assume you have a number? predicate that returns true if its argument is a number.

(define (cia sent)

1. (4 points) Write a procedure every-nth that takes two arguments, a number *n* and a sentence. It should return the sentence formed by choosing every *n*th element of the sentence.

For example:

> (every-nth 3 '(the rain in spain stays mainly on the plain))

(in mainly plain)

> (every-nth 2 '(in the town where i was born lived a man who sailed to sea))

(the where was lived man sailed sea)

> (every-nth 4 '(you think you lost your love well i saw her yesterday))

(lost i)

(define (every-nth n sent)