CSCI 450 Fall 2024
Homework 9

Problem 1: (0.5 pts * 10 = 5pts) Fill in the blank and True/False questions:

1) The design of the functional languages is based on _____.

2) Expressions in Scheme are automatically interpreted by the function _____.

3) _____ is the function that returns the <u>first</u> element in a list.

4) _____ is a functional form that takes two functions as parameters and yields a function whose value is the first actual parameter function applied to the application of the second.

5) _____ is a functional form that takes a single function as a parameter and yields a list of values obtained by applying the given function to each element of a list of parameters.

6) In a functional programming language, the evaluation of a function always produces the same result given the same parameters. This feature is called _____.

7) Operators in Scheme (like +, -, *, /, etc.) are _____. (prefix / infix / postfix)

8) T/F: In Scheme, lambda expressions are used to describe nameless functions.

9) T/F: The programming language Python supports some functional programming features.

10) T/F: Generally speaking, functional languages have more complex syntax and semantics than imperative languages.

Problem 2: (5 pts) Finish the Scheme program, make sure to include the header comments (check Program Template on Bb). If your program does not execute, you will get NO credit.