Programming language HW1 common LISP

Installation

- My environment: Windows 10

- Installed SBCL form <u>here</u> using MSI package for 64-bit Windows

- Excute SBCL with Windows Powershell, using `sbcl --script .\<filename>.lsp`

- Note that `End Of File(EOF)` in Windows can be send by `ctrl+z` instead of `ctrl+d` in Linux.

  - Also, for each EOF signal, you have to press `enter` in Windows due to "blocking IO method"

HW Problems

For each problem, the `.lsp` file(script) is provided.

I just use `(print <function>)` to show the result on terminal. Feel free to modify the parameter to check the result.

Problem 1.1

- filename: prime.lsp
  - method: using recursion to checking every number that smaller than the number input.
  - if the number can be divide only by itself and 1, it\'s a prime number.

Problem 1.2

- filename: palindrome.lsp
  - method: compare the input content with reversed itself, if all equal, it\'s palindrome.

Problem 1.3

- filename: fib.lsp (using `(trace <function>)` to trace how function works)

  - original recursion: Just original recursion call.

  - tail recursion: Add two more arguments, `a` and `b` meaning the zeroth and the first number in the fibonacci series. when using the function I write, remember to give `a b => 0 1` respectively.

  - the tail recursion method is quite similar to iteration method, the number we want is computed through the recursion call

Problem 2