**User Guide for Running the Lambda Interpreter**

Welcome to the Lambda Interpreter! This guide will help you run the interpreter in both interactive and file execution modes. Follow the instructions below to get started.

**1. Requirements**

* Your programs should have the .lambda file extension.
* The interpreter supports two modes:
  1. **Interactive Mode**: Allows you to execute commands line by line.
  2. **File Execution Mode**: Executes an entire program from a file.

**2. Running the Interpreter**

**Interactive Mode**

Interactive mode is useful for experimenting with code snippets or testing individual expressions. To start the interpreter in interactive mode:

1. Open your terminal or command prompt.
2. Run the interpreter without any arguments:

Use: python main.py

1. You will enter the REPL (Read-Eval-Print Loop), where you can type and execute commands one line at a time. The result of each command will be printed immediately.
2. To exit the REPL, type exit or quit.

Example:

>>> (Lambd x. x + 1)(5)

6

>>> exit

**File Execution Mode**

File execution mode is ideal for running complete programs stored in .lambda files. To execute a program:

1. Ensure your program is saved with the .lambda file extension.
2. Run the interpreter with the file name as an argument:

Use: python main.py your\_program.lambda

1. The interpreter will execute the entire program and print the result.

Example:

python main.py factorial.lambda

If the file factorial.lambda contains a valid program, the interpreter will execute it and print the result.

**3. Error Handling**

* If the specified file is not found, the interpreter will print an error message.
* If an error occurs during execution (either in interactive mode or file execution mode), an error message will be displayed with details.