

Golang Course Week 1 Project Definition

Title: Simple Calculator Program in Go

Overview: This project involves developing a basic calculator program in Go. The calculator will operate via a command-line interface (CLI), allowing users to perform basic arithmetic operations. The program's primary focus is on demonstrating proper coding practices in Go, including input handling, error management, and structured packaging.

Key Features:

- **Data Input:** Utilize `fmt.Scanln` or `fmt.Scanf` to collect user input from the CLI.
- **Continuous Operation:** Implement a `for` loop to keep the program running continuously, allowing the user to perform multiple calculations without restarting the application.
- **Function Implementation:** Develop functions for arithmetic operations, ensuring the use of appropriate data types for precision and performance.
- **Structural Integrity:** Establish a well-organized project structure, with clear packaging and modular design for easy maintenance and scalability.
- **Error Handling and Logging:** Implement robust error handling mechanisms throughout the program. Use a logging system to record errors and important events, aiding in debugging and ensuring reliability.
- **Arithmetic Operations:** Support basic arithmetic operations, including addition, subtraction, multiplication, and division.
- **Input Validation:** Rigorously validate all user inputs to prevent errors and ensure accurate calculations.
- **Data type:** use `slices`, `bools`, `float64`,... wherever is needed.

Goal: The aim of this project is to create a user-friendly and reliable calculator program in Go that adheres to best coding practices. It should serve as an example of effective program structure, error management, and functionality in Go.