[Source Code link]
https://github.com/iuliagroza/Formal-Languages-Compiler-Design-Mini-Language/tree/main

Alpakas

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Overview

This documentation covers the implementation in Rust of the mini-language Alpakas. The implementation can be found at https://github.com/iuliagroza/Formal-Languages-Compiler-Design-Mini-Language/tree/L2.

1. Symbol Table

The symbol table uses a single hash table to store both identifiers and constants.

1.1 Structure - Hash Table

The hash table is implemented using a fixed-size table with separate chaining to resolve collisions. Each entry in the table is an option containing a vector of entries (representing the chain). Each entry consists of a key-value pair.

1.2 Operations

- **Constructor**: Initialises an empty hash table of size TABLE_SIZE.
- **Hash function**: A basic hash function that computes the hash index for a given key.
- **Insert**: Inserts a key-value pair into the hash table.
- **Get**: Retrieves the value associated with a given key.