

GitHub Repo: <https://github.com/lavrric/UniversityProjects/tree/main/FLCD/lab2>

### Symbol Type:

- ID, STRING\_CONST, INT\_CONST

### Hash Table:

- Add: adds an element to the hash table (allows multiple occurrences)
- Clear: clears/empties the hash table

### Symbol Table:

- Add: adds a SymbolTableItem (containing data about the value, id in the table, symbol\_type) to the hash\_table in the form of if there is no value (with either symbol\_type)
- Search: searches if there exists a value in the symbol table, returns SymbolTableItem that it belongs to, None if there does not exist such;
- Clear: resets the symbol table

### Scanner:

- \_\_load\_file: private method used for loading a program from a file;
- \_\_parse\_tokens: private method that returns the tokens in a loaded program. Takes each line character by character. Special cases:
  - o 1. Char = " or '. Then the word will be a STRING\_CONST,
  - o 2. Special 2 char separators.

Separators and language keywords are not included in the final token array;

- \_\_process\_tokens: private method used for processing tokens. For each word, it checks if it satisfies the regex to be each of the symbol\_type s and if it does satisfy one of them, adds it to the symbol table. In case not, it prints the word showing that there's something wrong with it;
- Scan: method to be called from outside. Loads a program from a file, parses the tokens and processes them, returning the inferred symbol\_table.

The files to be tested are the ones developed during lab1a: p1, p2, p3, p1\_err.