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HomeWork3 of Compiler Course

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There are some files that have been generated by ANTLR4 containing STGrammarLexer and STGrammarParser that tokenize the input and parse them into a tree.

The ST.py contains two classes: SymbolTable and SymbolTableListener. The SymbolTable class keeps track of variable declarations and shows the symbol table. The SymbolTableListener class is actually a listener that performs some actions like evaluation of the expression or determining the type, and etc.

Finally at main we first read the input from the input file then we create lexer, parser, and the symbol table. After that by using the listener the code executed and then the symbol table is printed.

Input:

```
a = 5 - 4
b = 3 * 9
c = a + b
```

Output:

```
Symbol Table:
ID: 1, Name: a, Type: integer, Value: 1
ID: 2, Name: b, Type: integer, Value: 27
ID: 3, Name: c, Type: integer, Value: 28
```