

<https://github.com/ComanacDragos/ToyLanguageCompiler>

Value

```
// default implementation: compares lexicographically the string representation of the Value with
// the string representation of the otherValue. If the representations are equal 0 is returned
// If the Value representation is less than otherValue representation a negative value is returned
// otherwise a positive value is returned
default Integer compareTo(Value otherValue)
```

BoolValue, CharValue, FloatValue, IdentifierValue, IntValue, StringValue are implementing Value and each have a baseValue and their representation according to the specification

SymbolTableNode has the following attributes

```
Integer position; // position in the symbol table
Value value; // the value in the symbol table
SymbolTableNode leftChild; // reference to the leftChild
SymbolTableNode rightChild; // reference to the rightChild
```

```
public interface SymbolTable {
    /*
    Returns the position of the value if the value exists,
    otherwise it inserts the value and returns the new position
    */
    Integer getPosition(Value value);
}
```

public class SymbolTableBSTImpl implements SymbolTable and has the following attributes

```
int nextPosition = 0; // represents the position of the next value to be inserted
SymbolTableNode root; // represents the root of the tree
```

ComposedSymbolTableImpl implements SymbolTable and has 2 symbol tables

```
SymbolTable identifierSymbolTable; // for identifiers
SymbolTable constantSymbolTable; // for constants
```

