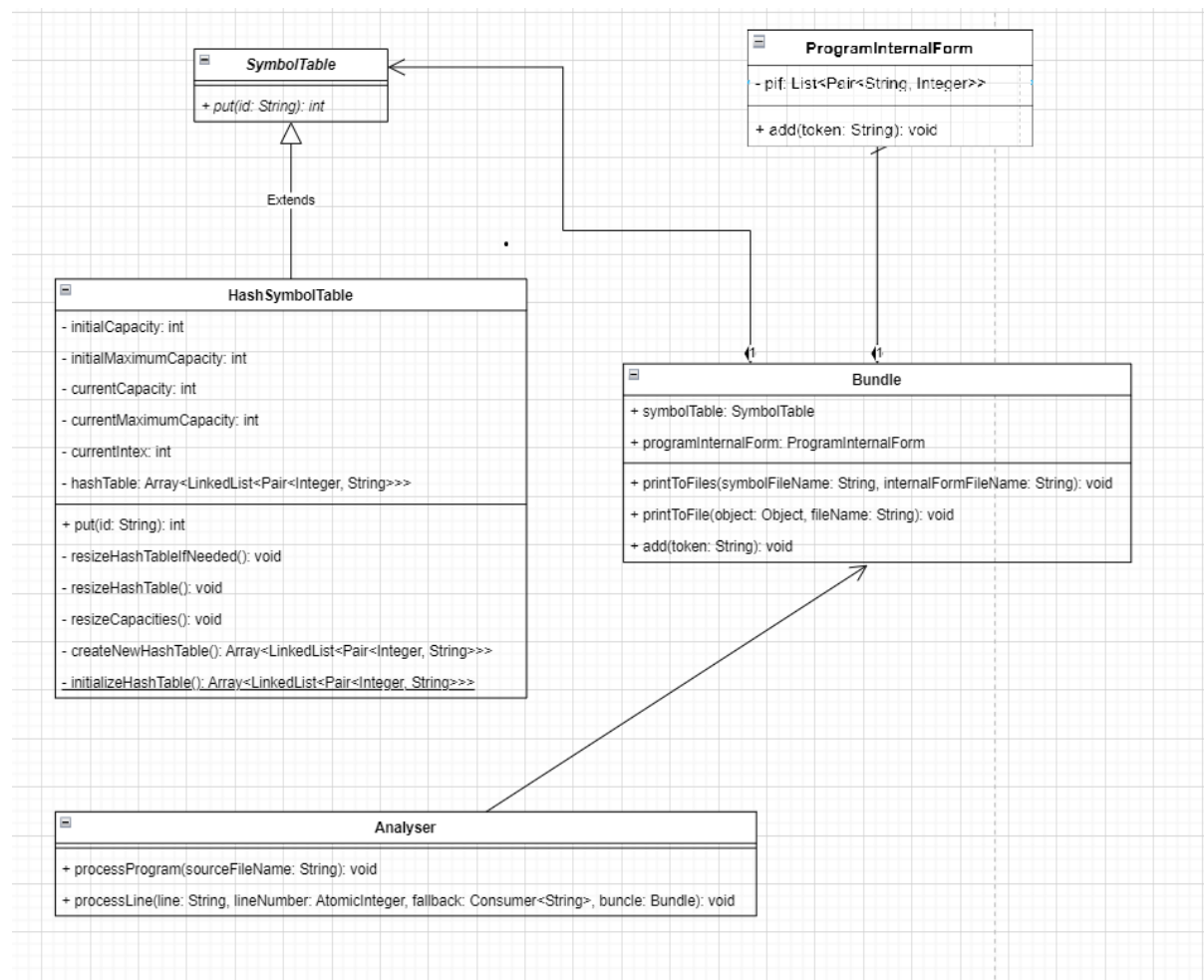


## UML Diagram:



## Symbol Table:

The SymbolTable is implemented over a HashTable with separate chaining for the resolution of collisions.

The hashTable is initialized with the value of `currentCapacity( = initialCapacity == 8)`.

When the number of elements in the HashTable (given by the field 'currentIndex') reaches the value 'currentMaximumCapacity', the hashTable is replaced by one that has initially double its previous capacity. The value for the maximum capacity is also doubled for the new hashTable.

Hash function:

```
static int tableHashCode(String id, int capacity) {
    return Math.abs(id.hashCode() % capacity); }
```

## **Analyser:**

Regex rules:

identifier: `_?[a-zA-Z][a-zA-Z0-9]*`

Can start with underscore, needs a letter after the optional underscore, then can be followed by any sequence of letters and digits.

string: `"[^"]**"`

A string is specified between two a double-quotes pair. Can contain any character except a pair of double-quotes. Empty string is allowed.

integer: `0|[-+]?[1-9][0-9]*`

Can be zero, or a number that starts, optionally, with its sign, followed by a non-zero digit, then a sequence of digits of any length.

character: `'[^']'`

Similar to string, but with single-quotes. Also, only one character is allowed between the quotes, and empty sequence is not allowed.

boolean: `"true|false"`

Either true or false.

The regex rules for keywords, operators and separators are just their joined sets of values, with the `"|"` delimiter between them.