

<https://github.com/PopEmanuel/FLCD>

I created a scanner for verifying the lexical correctness of my program. It uses regexPatterns to find what category each character belongs to.

I created a SymbolTable for holding the identifiers using a custom HashTable

The hash algorithm :

```
private final int hashCode = 4;
```

```
private int hash(String value) {  
    return value.hashCode() % hashCode;  
}
```

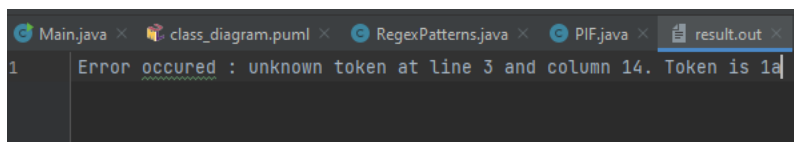
We always work with strings so we use the hashCode of the string and use the modulo with a hashCode held in the class

The way the HashTable works is when you want to add a new value, it computes the hash value of the string, verifies if it is the first one with that index and if so adds it to index 1 otherwise it searches on the index to find the value, if it doesn't find it it will insert on the last index the value.

Getting the index of a value is easy, just searching on the index and returning the key value pair. Otherwise return (-1, -1)

I also created a PIF using an ArrayList from java. I add pifEntities to the List, in order to keep track of each identifier.

The scanner discovers the errors and provides the line and column that it happened.



## INTERNAL USE

The diagram class provides more info about the structure of the program

