Report for Assignment 3: Programming Language Structures

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1 Java Errors

1.1 Lexical

Putting the following into your code would result in a lexical error:
int spade = ♠;

1.2 Syntax

Doing something as simple as leaving a semicolon off of a statement would result in a syntax error.
int spade = 5

1.3 Semantic

One might expect the following method to return 7, but Java would raise an error because we never formally declared b as an integer.

```
public int return7(){
int a = 7;
b = a;
return b;
}
```

1.4 Dynamic Symantic

Trying to access an array at a point that was not declared will result in a dynamic symantic error.

```
int[] array = new int [10];
array[15] = 7;
```

2 Financial Grammar

3 Language Classification

CoffeeScript is a scripting language. Often things are only written in Coffee-Script and actually runned as JavaScript, which is certainly a scripting language.

3.1 Compiled vs. Interpreted

CoffeeScript is a language that compiles into JavaScript. JavaScript is run inside of or linked to HTML files. It allows for a high level of computation to be done on the internet.

3.2 Euclid's Algorithm: CoffeeScript

```
Gcd = (a,b) -> if b == 0 then a
else gcd(b,a%b)
```