For this assignment, we will be writing a parser that is able to parse an input file written in our “**Tiny**” grammar. You should finish writing the “**Parser**” class that I’ve provided. Your Parser class should print:

* Each time it enters or leaves a rule and what the rule is
* Each time it recognizes a token and what the token was
* Something, everytime it catches an error
* Whether or not the parse completed successfully (no errors) and how many errors were found

**Parser.rb** extends **Scanner.rb** (The lexer that you wrote for your last assignment) and provides a framework for a top-down, recursive-descent parser of the **TINY** language. The parser stays one token ahead in the Token stream **(@lookahead**) and uses the Token to predict how to continue parsing the current instruction and which method to call next.

The **consume()** method calls **nextToken()** in the scanner. The current **@lookahead** Token is discarded, and the next Token in the stream is retrieved. Whitespace Tokens are discarded.

The **match(dtype)** method tries to match the **@lookahead** Token with the provided type (**dtype**). If a match is found, **consume()** is called to retrieve the next Token. Otherwise an error is raised.

The **program()** method is first called to parse a **TINY** program. Since a **TINY** program consists of a sequence of statements, **program()** calls **statement()** repeatedly until it encounters the **EOF** token.

Complete the parser by providing methods for the appropriate BNF rules in **TINY**.

I have given you my **lexer** and **token** ruby classes. I have also partially written the **parser** for you and have written a **main.rb** file that can run your ruby parser.

I have also included 5 sample input files that you can use to test your program once you’ve finished writing it.

**input[1-3].txt** should complete with no parse errors.

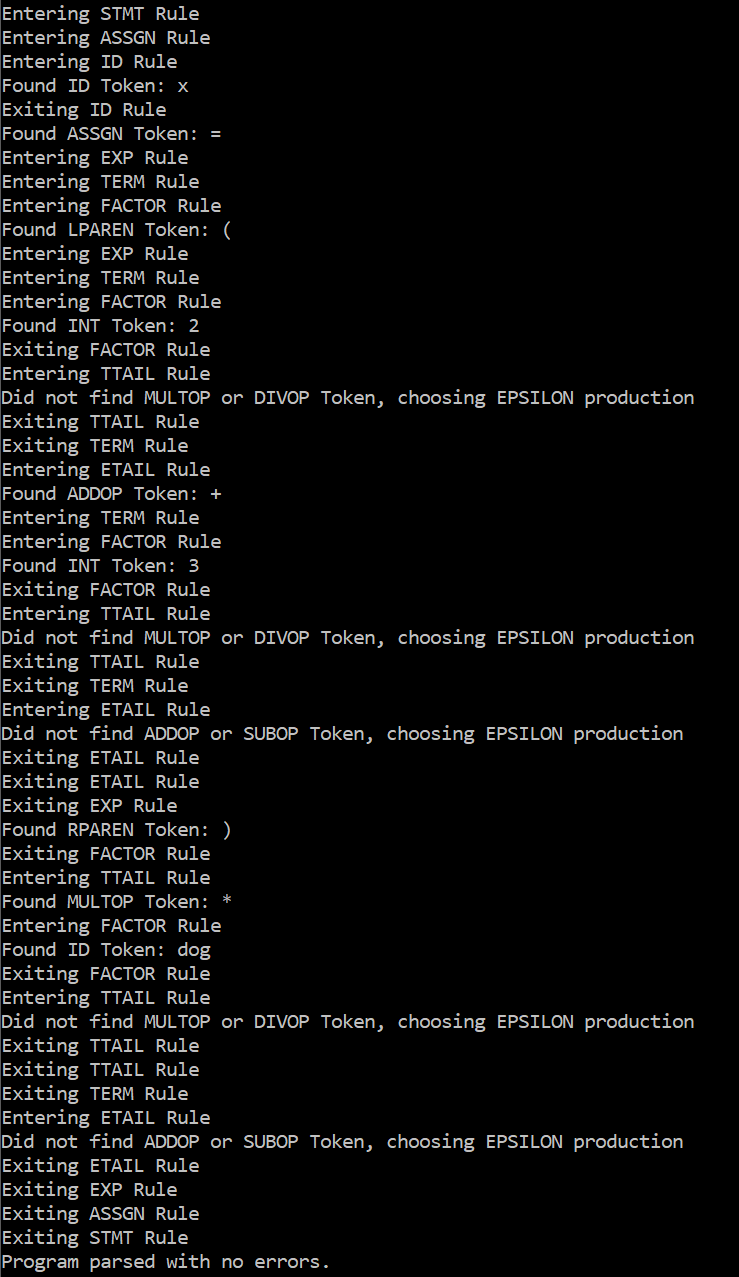
**input[4-5].txt** should have parse errors.

Below are screenshots of what your output should look like, based on the input files I’ve provided.

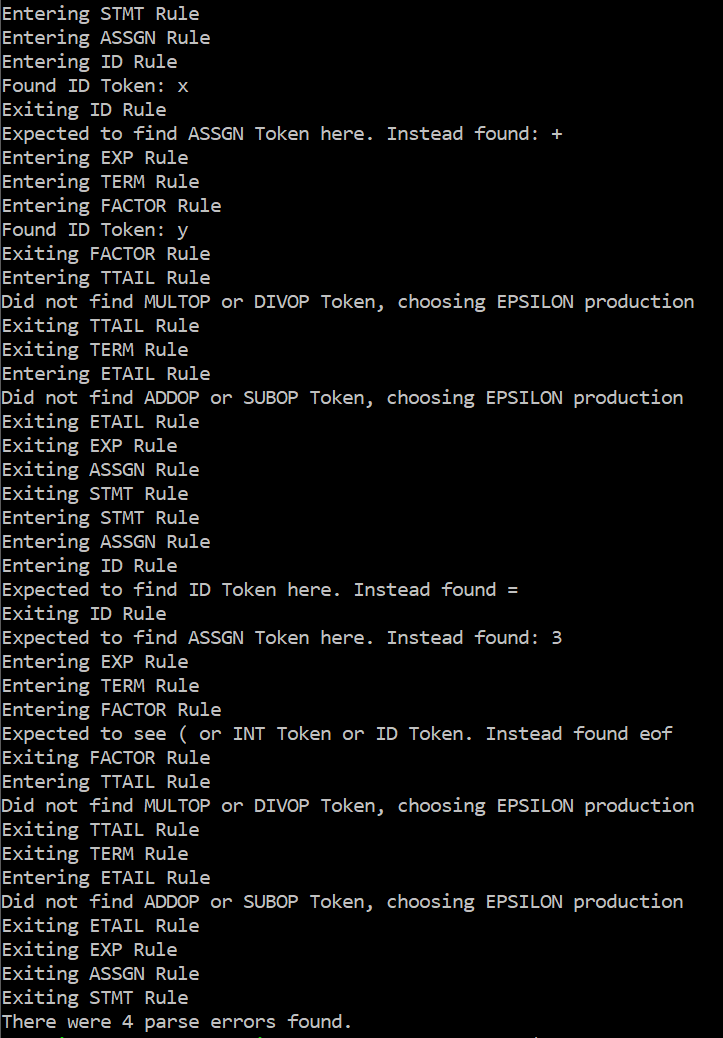
## Deliverables

Submit ONLY your **Parser.rb** file.

input3.txt



**input4.txt**



**input5.txt**

