

Web-based Recursive Descent Recognizer

In this assignment I am to implement a recursive-descent recognizer with a **web interface** for the BNF grammar given below. Based on the pseudocode I have done in PL Assignment 1. Here is the grammar:

$$\text{EXP} ::= \text{EXP} + \text{TERM} \mid \text{EXP} - \text{TERM} \mid \text{TERM}$$
$$\text{TERM} ::= \text{TERM} * \text{FACTOR} \mid \text{TERM} / \text{FACTOR} \mid \text{FACTOR}$$
$$\text{FACTOR} ::= (\text{EXP}) \mid \text{DIGIT}$$
$$\text{DIGIT} ::= 0 \mid 1 \mid 2 \mid 3$$

The following is a set of requirements for this recognizer (parser):

- Ask the user for an input stream.
- Report "legal" or "errors found" (not both!).
- Assume the input stream is the token stream.
- Assume the input stream terminates with a \$.
- Assume there is no white space.
- Use a form to collect input and return the output.
- Test your recognizer with illegal and legal strings.
- Give a brief description of this recognizer for the user on how to use and what method that it is based on.

Implementation process:

I have learned both PHP and JS before, but I chose to use JS to implement my RDR page because I want to keep everything consistent. JS is more straightforward in my opinion since it's easier to get functions called while php you need to make a request from a form.

Useful Resource: w3schools.com, php.net

Suggestions/Contributions

I found this RDR's methodology is really helpful for string/character recognizer that we will somehow interact in our career later.