Instituto Tecnológico y de Estudios Superiores de Monterrey

Proyecto Final: Diseño de Compiladores

PATITO++

Enrique Villa A01193635 Santiago Castaño A01193760

1. Language Requirements

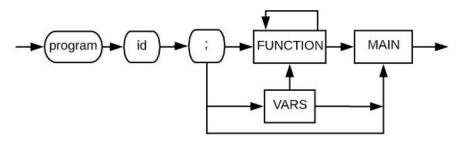
1.1 Basic Elements

Reserved Words						
program	main	var	int	float	char	function
return	read	print	if	then	else	while
do	from	to				

Literal Type	Regular Expression
id	[a-zA-Z]+[0-9]*(_[a-zA-Z0-9]*)*
integer	[0-9]+
float	[0-9]+.[0-9]+
string	("(\\" [^"])*") (\'(\\\' [^\\'])*\')
char	("(\\"[[^"])?") (\'(\\\'[[^\'])?\')

1.2 Syntax diagrams

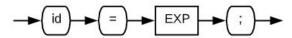
PROGRAM



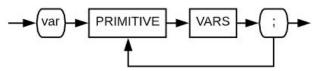
MAIN



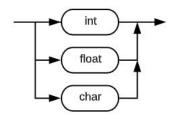
ASSIGNMENT



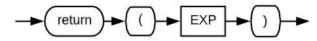
DECLARATION



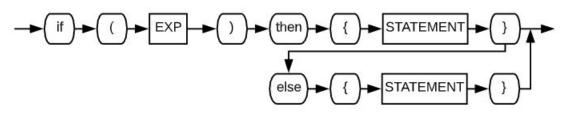
PRIMITIVE



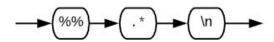
RETURN



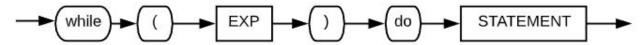
ΙF



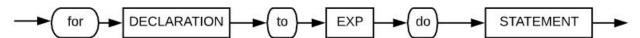
COMMENT



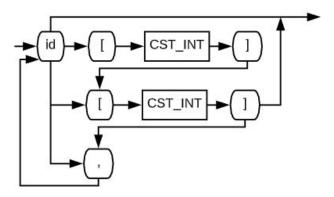
WHILE



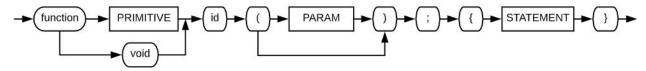
FOR



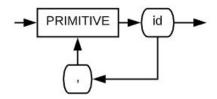
VARS



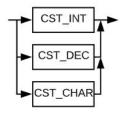
FUNCTION



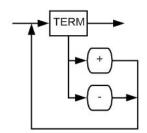
PARAM



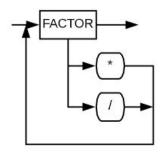
CST_PRIM



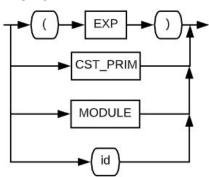
EXP



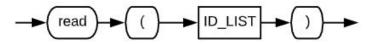
TERM



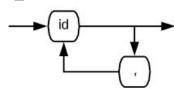
FACTOR



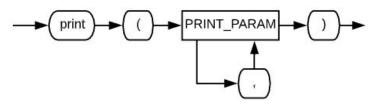
READ



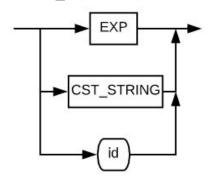
ID_LIST



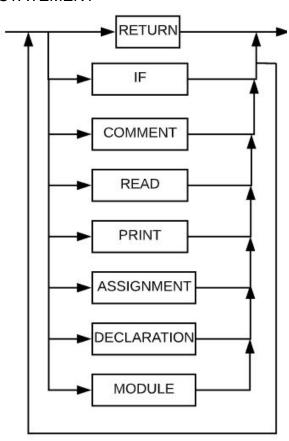
PRINT



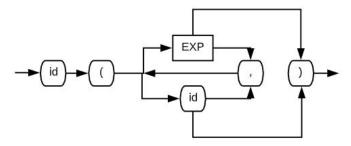
PRINT_PARAM



STATEMENT



MODULE



1.3 Semantic characteristics

Error handling for SUM operation				
	int	float	char	
int	int	float	string	
float	float	float	string	
char	string	string	string	

Error handling for Multiplication, Division and Substraction (* , / , -) operations				
	int	float	char	
int	int	float	Error	
float	float	float	Error	
char	Error	Error	Error	

1.4 Data types

Туре	Name
Primitive	int, float, char

2. Development Platform

- PLY for lexical and syntax analysis in Python.
- **GitHub** (git) for our project's version control.

3. Bibliography

Beazley, D. M. (2018, February 15). PLY (Python Lex-Yacc). Retrieved March 4, 2020, from https://www.dabeaz.com/ply/ply.html