

# Lexer specifications:

Token	Pattern	Name
Numbers	Numerical costant	256
Identifiers	(***)Regex	257
Relop	(<,>,<=,>=,==,<>)	258
Case	case	259
When	when	260
Then	then	261
Else	else	262
While	while	263
Do	do	264
Assignment	:=	265
Print	print	266
Read	read	267
Or		268
And	&&	269
Not	!	33
	(	40
	)	41
	{	123
	}	125
Sum	+	43
Difference	-	45
Multiplication	*	42
Division	/	47
	;	59
EOF	End of the input	-1

(\*\*\*) =  $\left( [a - zA - Z] \mid (-( -)^*[a - zA - Z0 - 9]) \right) \left( [a - zA - Z0 - 9] \mid - \right)^*$

# Contex-free grammar:

$\langle prog \rangle$	$::=$	$\langle statlist \rangle EOF$
$\langle statlist \rangle$	$::=$	$\langle stat \rangle \langle statlistp \rangle$
$\langle statlistp \rangle$	$::=$	$ ; \langle stat \rangle \langle statlistp \rangle \mid \varepsilon$
$\langle stat \rangle$	$::=$	$ ID := \langle expr \rangle$ $ \mid print ( \langle expr \rangle )$ $ \mid read ( ID )$ $ \mid case \langle whenlist \rangle else \langle stat \rangle$ $ \mid while ( \langle bepr \rangle ) \langle stat \rangle$ $ \mid \{ \langle statlist \rangle \}$
$\langle whenlist \rangle$	$::=$	$\langle whenitem \rangle \langle whenlistp \rangle$
$\langle whenlistp \rangle$	$::=$	$\langle whenitem \rangle \langle whenlistp \rangle \mid \varepsilon$
$\langle whenitem \rangle$	$::=$	$ when ( \langle bepr \rangle ) \langle stat \rangle$
$\langle bepr \rangle$	$::=$	$\langle expr \rangle RELOP \langle expr \rangle$
$\langle expr \rangle$	$::=$	$\langle term \rangle \langle exprp \rangle$
$\langle exprp \rangle$	$::=$	$ + \langle term \rangle \langle exprp \rangle \mid - \langle term \rangle \langle exprp \rangle \mid \varepsilon$
$\langle term \rangle$	$::=$	$\langle fact \rangle \langle term p \rangle$
$\langle term p \rangle$	$::=$	$ * \langle fact \rangle \langle term p \rangle \mid / \langle fact \rangle \langle term p \rangle \mid \varepsilon$
$\langle fact \rangle$	$::=$	$ ( \langle expr \rangle ) \mid NUM \mid ID$