BNF and interpreter rules

**Maximum length allowed for calculation:** 50.

**Overflow handling:** showing error message on screen.

**Maximum length allowed for program code:** 30.

**Overflow handing:** executing only the first 30 code lines.

**Maximum variable names length:** 4.

**Overflow handling:** showing error message on screen.

Variables must contain letters only.

Only 10 variables are allowed in 1 program.

**Tokens:**

<numbers> ::= <number> | <numbers number>

<number> ::= <digits> | <+digits> | <-digits>

<digits> ::= <digit> | <digits digit0> | <digits digit>

<digit> ::= 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

<digit0> ::= 0

**Boolean expressions:**

<Boolean sign> ::= <bigger than sign> | <smaller than sign> | <equal sign>

<bigger than sign> ::= <

<smaller than sign> ::= >

<equal sign> ::= ==

**Arithmetic expressions:**

<arithmetic sign> :: <addition sign> | <subtraction sign> | <multiplication sign> | <division sign> | <average sign>

<addition sign> :: -

<subtraction sign> :: +

<multiplication sign> :: /

<division sign> :: \*

<average sign> :: $

**Blocks and commands:**

<program> ::= <statements>

<statements> ::= <statement> | <statements> <statement>

<while\_loop> ::= "while " <boolean\_expression> ":" <statements>

<statement> :: = <assignment> | <arithmetic\_ expression > | <nested\_if> | <print\_statement> | <while\_loop> | < boolean\_expression

<assignment> ::= <variable> "==" <numbers>

arithmetic\_ expression > ::= <term> <arithmetic\_sign> <term> >

<nested\_if> :: = <if\_statement> | " "<if\_statement> | " "<if\_statement> | " "<if\_statement>

if\_statement> ::= "if " <boolean\_expression> ":" <statements>>

boolean\_expression > ::= <term> <boolean\_sign> <numbers> >

<print\_statement> ::= "print " <term>

<term> ::= <variable> | <number>

<variable> ::= <letters>

<letters> ::= <letter> | <letters><letter>

<letter> ::= a-z | A-Z