**SPECIFICATIONS:**

\*Alphabet

-Upper (A-Z) and lower case letters (a-z) of the English alphabet

-Underline character ‘\_’;

-decimal digits (0,9);

\*Lexic

-Special symbols, representing:

operators: **+ - \* -> < <= >= > != = & ^ % /**

separators: **[ ] ( ) ; space , # << >>**

reserved words: **list int char if else while read write bool true false**

\*Identifiers

-a letter or sequence of letters and digits, such that the first character is a letter; the rule is:

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

<letter>::= “A” | “B” |…| “Z”| “a” | “b” |… | “z”

<digits>::= “0” | “1” | “2” | “3” | … | “9”

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

\*Constants

1.Integer, the rule is:

<integer>::=”0”|<sign><digits>|<digits>

<sign>::=”+”|”-“

<digit>::=“0” | “1” | “2” | “3” | … | “9”

<nonzero\_digit>::= “1” | “2” | “3” | … | “9”

<all\_digits>::=<digit>|<digit><all\_digits>

digits::=<nonzero\_digit>|<nonzero\_digit><all\_digits>

2.Character, the rule is:

<character>::=<letter>|<digit>

<letter>::= “A” | “B” |…| “Z”| “a” | “b” |… | “z”

<digit>::= “0” | “1” | “2” | “3” | … | “9”

3.String, the rule is:

<string>::=” ”|<char>|<char><string>

<char>::=<letter>|<digit>

<letter>::= “A” | “B” |…| “Z”| “a” | “b” |… | “z”

<digit>::= “0” | “1” | “2” | “3” | … | “9”

4.Boolean,the rule is:

<boolean>::=”true”|”false”