

-----Lexic.txt-----

Alphabet:

Lower case letters: a-z
Upper case letters: A-Z
Decimal digits: 0-9
Underline: _

Operators:

+ - * / % < <= > >= == != && || !=

Separators:

() { } ; , space newline

Reserved words:

begin end if else while readInt readChar print true false int bool char

Identifiers:

- A sequence of letters, digits, starting with an underline (_) and a letter

identifier ::= _ letter | _ letter {letter}{digit}
letter ::= "a" | "b" | ... | "z" | "A" | "B" | ... | "Z"
digit ::= "0" | "1" | ... | "9"

Constants:

1.Integer constant:

int_constant ::= 0 | [sign] nonzero_digit {digit}
sign ::= "+" | "-"
nonzero_digit ::= "1" | ... | "9"
digit ::= "0" | "1" | ... | "9"

2.Bool constant:

bool_constant ::= "true" | "false"

3.Char constant:

char_constant ::= letter | digit

-----Syntax.in-----

type ::= "int" | "char" | "bool"
relation ::= "<" | "<=" | "==" | ">=" | ">" | "!=" | "&&" | "||"
operator ::= "+" | "-" | "*" | "/" | "%"

program ::= "begin" "{" decllist stmtlist "}" "end" ";"

decllist ::= declaration | declaration decllist

declaration ::= type IDENTIFIER ";" | type IDENTIFIER "[" int_constant "]" ";"

stmtlist ::= stmt | stmt stmtlist

stmt ::= simplstmt | structstmt

simplstmt ::= assignstmt ";" | arrayassignstmt ";" | iostmt ";"

assignstmt ::= IDENTIFIER "=" expression ";"

arrayassignstmt ::= IDENTIFIER "[" expression "]" "=" expression ";"

iostmt ::= "readInt" "(" IDENTIFIER ")" ";" | "readChar" "(" IDENTIFIER ")" ";" | "print" "(" IDENTIFIER ")" ";"

structstmt ::= ifstmt | whilestmt

ifstmt ::= "if" "(" condition ")" "{" stmtlist "}" ["else" "{" stmtlist "}"]

whilestmt ::= "while" "(" condition ")" "{" stmtlist "}"

factor ::= IDENTIFIER | int_constant | "(" expression ")"

term ::= factor | term operator factor

expression ::= term | expression operator term

condition ::= expression relation expression

-----token.in-----

+

-

*

/

%

>

<

>=

<=

==

!=

==

||

&&

[

]

{

}

(

)

,

;

begin
end
if
else
while
readInt
readChar
print
true
false
int
bool
char