

```

1  digits [0-9]
2  Datatype "int"|"float"|"void"|"string"
3  Identifiers [a-zA-Z][a-zA-Z0-9]*
4  S_comment  \\/[^\n]*
5  M_comment  \\/*([^\n]|\\/*)*\\/*
6
7  %{
8      #include "1907031.tab.h"
9      #include <stdio.h>
10     #include <stdlib.h>
11     #include <string.h>
12     int varindex(char *var);
13     extern int yylex();
14     extern int yyparse();
15     extern FILE *yyin;
16     extern FILE *yyout;
17     int yyerror(char *s);
18     //int lineNo = 1;
19 %}
20
21 %%
22
23 {S_comment} { printf("\nSingle Line Comment\n"); }
24 {M_comment} { printf("\nMultiple Line Comment\n"); }
25
26 "int" { return INT; }
27 "float" { return FLOAT; }
28 "string" { return STRING; }
29
30 "(" { return '('; }
31 ")" { return ')'; }
32 "<" { return '<'; }
33 ">" { return '>'; }
34 "{" { return '{'; }
35 "}" { return '}'; }
36 ";" { return END; }
37 "," { return ','; }
38 "=" { return '='; }
39 ":" { return ':'; }
40
41 "+" { return '+'; }
42 "-" { return '-'; }
43 "*" { return '*'; }
44 "/" { return '/'; }
45 "^" { return '^'; }
46 "mod" { return MOD; }
47
48 "less" { return LT; }
49 "great" { return GT; }
50 "equal" { return EQ; }
51 "great_eq" { return GEQ; }
52 "less_eq" { return LEQ; }
53 "not_eq" { return NEQ; }
54
55 "++" { return INC; }
56 "--" { return DEC; }
57 "!" { return NOT; }
58
59 "sin" { return SIN; }

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60 "cos" { return COS; }
61 "tan" { return TAN; }
62 "ln" { return LN; }
63 "log" { return LOG; }
64 "isOddEven" { return ODDEVEN; }
65 "factorial" { return FACTORIAL; }
66 "max" { return MAX; }
67 "min" { return MIN; }
68 "isPrime" { return PRIME; }
69
70 "print" { return DISPLAY; }
71
72 "if" { return IF; }
73 "else_if" { return ELSE_IF; }
74 "else" { return ELSE; }
75
76 "for" { return FOR; }
77 "inc" { return FLINC; }
78 "dec" { return FLDEC; }
79 "while" { return WHILE; }
80
81 "case" { return CASE; }
82 "switch" { return SWITCH; }
83 "default" { return DEFAULT; }
84
85 "-"?{digits}+ {
86     yylval.string = strdup(yytext);
87     return NUMBER;
88 }
89
90 "-"?({digits}+)?"."{digits}+ {
91     yylval.string = strdup(yytext);
92     return NUMBER;
93 }
94
95 "\"\"[^\"]*\"\" {
96     yylval.string = strdup(yytext);
97     return STR;
98 }
99
100 {Datatype}[ ]+"main" { return MAIN; }
101 "#include" { return IMPORT; }
102 {Identifiers}"."h" { return HEADER; }
103
104 "function" { return DEF; }
105
106 {Identifiers} {
107     yylval.string = strdup(yytext);
108     return VARIABLE;
109 }
110
111 [ \t\n]*
112
113 . {yyerror("Unknown Character.\n");}
114
115 %%

```