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A6: IMPLEMENTATION OF SYNTAX CHECKER USING YACC TOOL

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CODE :

a6_v3.y:

```
%{
   #include <stdio.h>
   #include <math.h>
   #define YYSTYPE double
   void yyerror();

   int err_flag = 0;

%}

%token ID
%token IF
%token NUM
%token ELSE
%token RELOP
%token FOR
%token UNOP

%%
P : S {printf("Syntactically Correct!\n");}
S : D
  | '{'B'}'
  | F
  | I
B : B S
  | S
F : FOR'('A';'C';'O')'S
O : A
  | U
I : IF'('C')'S ELSE S
C : ID RELOP ID
```

```
  | ID RELOP NUM
  | NUM RELOP ID
  | NUM RELOP NUM
A : ID'='E
D : ID'='E';'
E : E'+'T
  | E'-'T
  | T
T : T'*'F
  | T'/'F
  | F
F : ID
  | NUM
U : ID UNOP
  | UNOP ID
  ;

%%
void yyerror()
{
   //err_flag = 1;
   return;
}

void main()
{
   printf("\n-------------\nSyntax Checker\n-------------\n\n");
   yyparse();

}
```

a6_v3.l:

```
%{
   #include <stdio.h>
   #include "y.tab.c"
   extern YYSTYPE yylval;
%}

relop "<"|"<="|"=="|"!="|">"|">="
unop "++"|"--"

%%
"if" {return IF;}
```

```
"else" {return ELSE;}
"for" {return FOR;}
{relop} {return RELOP;}
{unop} {return UNOP;}
([a-zA-Z])([a-zA-Z]|[0-9])* {return ID;}
[0-9]+ {return NUM;}
[\n] { }
[\t] { }
[' '] { }
. return yytext[0];

%%

int yywrap(){
   return 1;
}
```

OUTPUT :