**ASSIGNMENT NO.**

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CLASS: BE COMP-1 ROLL NO.: 402006

PROGRAM:

//-----------------------------------Lex File--------------------------------//

%{

#include "y.tab.h"

extern int yyerror(char \*);

%}

%%

[0-9]+|[0-9]+\.[0-9]+ {yylval.dval=atof(yytext);return NUM;}

[a-z] {yylval.dname=yytext[0];return name;}

"sin" { return SIN;}

"cos" { return COS;}

"log" { return LOG;}

"sqrt" { return SQRT;}

"tan" { return TAN;}

[ \t] ;

\n return 0;

. return yytext[0];

%%

int yywrap()

{

return (1);

}

//-----------------------------------Yacc File--------------------------------//

%{

#include<math.h>

#include<stdio.h>

extern int yylex();

extern int yyparse();

extern int yyerror(char \*e);

%}

%union

{

double dval;

char dname;

}

%token<dval> NUM

%token<dnum> SIN

%token<dnum> COS

%token<dnum> SQRT

%token<dnum> TAN

%token<dnum> LOG

%type<dval> exp

%token<dname> name

%left '+' '-'

%left '\*' '/'

%%

s : name '=' exp { printf ("%c = %f",$1,$3);}

exp : exp '+' exp { $$ = $1 + $3 ;}

|exp '-' exp { $$ = $1 - $3 ;}

|exp '\*' exp { $$ = $1 \* $3 ;}

|exp '/' exp { $$ = $1 / $3 ;}

|SIN'('exp')' {$$=sin(($3\*(3.14/180)));}

|COS'('exp')' {$$=cos(($3\*(3.14/180)));}

|TAN'('exp')' {$$=tan(($3\*(3.14/180)));}

|LOG'('exp')' {$$=log($3);}

|SQRT'('exp')' {$$=sqrt($3);}

|NUM {$$=$1;}

;

%%

int main()

{

printf("\nEnter the expression: ");

yyparse();

printf("\n");

yylex();

}

extern int yyerror(char \* e)

{

printf("\nString is rejected.\n");

}