```
%{
#include "y.tab.h"
%}
%%
[0-9]+       {yylval.num=atof(yytext); return number;}
[-+*/]       {return yytext[0];}
COS|cos      {return cos1; }
SIN|sin      {return sin1; }
TAN|tan      {return tan1; }
%%
int yywrap(){
    return 1;
}
```

cal.y

```
%{
#include<stdio.h>
#include<math.h>
%}

%union {float num;}
%start line
%token cos1
%token sin1
%token tan1
%token <num> number
%type  <num> exp

%%

line    : exp
    | line exp
    ;

exp : number         {$$=$1;}
    | exp '+' number    {$$=$1+$3;printf("\n%f+%f=%f\n",$1,$3,$$);}
    | exp '-' number    {$$=$1-$3;printf("\n%f-%f=%f\n",$1,$3,$$);}
    | exp '*' number    {$$=$1*$3;printf("\n%f*%f=%f\n",$1,$3,$$);}
```

```
    | exp '/' number     {$$=$1/$3;printf("\n%f/%f=%f\n",$1,$3,$$);}
    | cos1 number        {printf("%f",cos(($2/180)*3.14));}
    | sin1 number        {printf("%f",sin(($2/180)*3.14));}
    | tan1 number        {printf("%f",tan(($2/180)*3.14));}
    ;

%%

int main(){
yyparse();
return 0;
}
int yyerror(){
//exit(0);
}
```

Command Prompt

```
Microsoft Windows [Version 10.0.19043.1526]
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C:\Users\Admin>cd C:\SPCC\Exp3

C:\SPCC\Exp3>bison -dy cal.y

C:\SPCC\Exp3>flex cal.l

C:\SPCC\Exp3>gcc lex.yy.c y.tab.c

C:\SPCC\Exp3>a.exe
18*2

18.000000*2.000000=36.000000

sin 30
 0.499770

C:\SPCC\Exp3>color fc

C:\SPCC\Exp3>
```