Compiler Design _ HW14

系級：資工１１１　學號：４０７４７０３１Ｓ　姓名：劉子弘

```lex
%{
#include "y.tab.h"
extern int yylval;
%}

%%
[0-9]+  { yylval = atoi(yytext); return NUMBER; }
[ \t]   ;        /* ignore white space */
\n  return 0;   /* logical EOF */
.   return yytext[0];
%%
```

```yacc
%token NAME NUMBER
%%
statement:  NAME '=' expression
    |   expression      { printf("= %d\n", $1); }
    ;

expression: expression '+' mulexp   { $$ = $1 + $3; }
    |   expression '-' mulexp   { $$ = $1 - $3; }
    |   mulexp              { $$ = $1; }
    ;

mulexp:     mulexp '*' primary { $$ = $1 * $3; }
    |   mulexp '/' primary { $$ = $1 / $3; }
    |   primary { $$ = $1; }
    ;

primary: '(' expression ')' { $$ = $2; }
    |    '-' primary { $$ = - $2; }
    |    NUMBER { $$ = $1; }
    ;
```

```
$ yacc -d ch3-01.y
$ lex ch3-01.l
$ gcc lex.yy.c y.tab.c -ly -lfl  -o 40747031s_hw14
ch3-01.y: In function 'yyparse':
ch3-01.y:4:7: warning: incompatible implicit declaration of built-in function 'printf'
$ ./40747031s_hw14
3*(3/1)+(-5)
= 4
$
```