

Compiler Design _ HW 1 1

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

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

```
%{
#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 -d ch3-01.y
$ lex ch3-01.l
$ gcc lex.yy.c y.tab.c -ly -lfl -o 40747031s_hw11
ch3-01.y: In function 'yyparse':
ch3-01.y:4:7: warning: incompatible implicit declaration of built-in function 'printf'
$ ./40747031s_hw11
11+1
= 12
$
```

右邊 NNUMBER 改 expression

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

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

```
$ yacc -d ch3-01.y
conflicts: 4 shift/reduce
$ lex ch3-01.l
$ gcc lex.yy.c y.tab.c -ly -lfl -o 40747031s_hw11
ch3-01.y: In function 'yyparse':
ch3-01.y:4:7: warning: incompatible implicit declaration of built-in function 'printf'
$ ./40747031s_hw11
11+1
= 12
$ ./40747031s_hw11
7-8+10
= -11
```