

Parser Generator를 이용한 Lex & Yacc제작

Parser Generator 사양

- ▶ 최소 사양

OS : Windows 32bit(Windows XP, Windows 7)

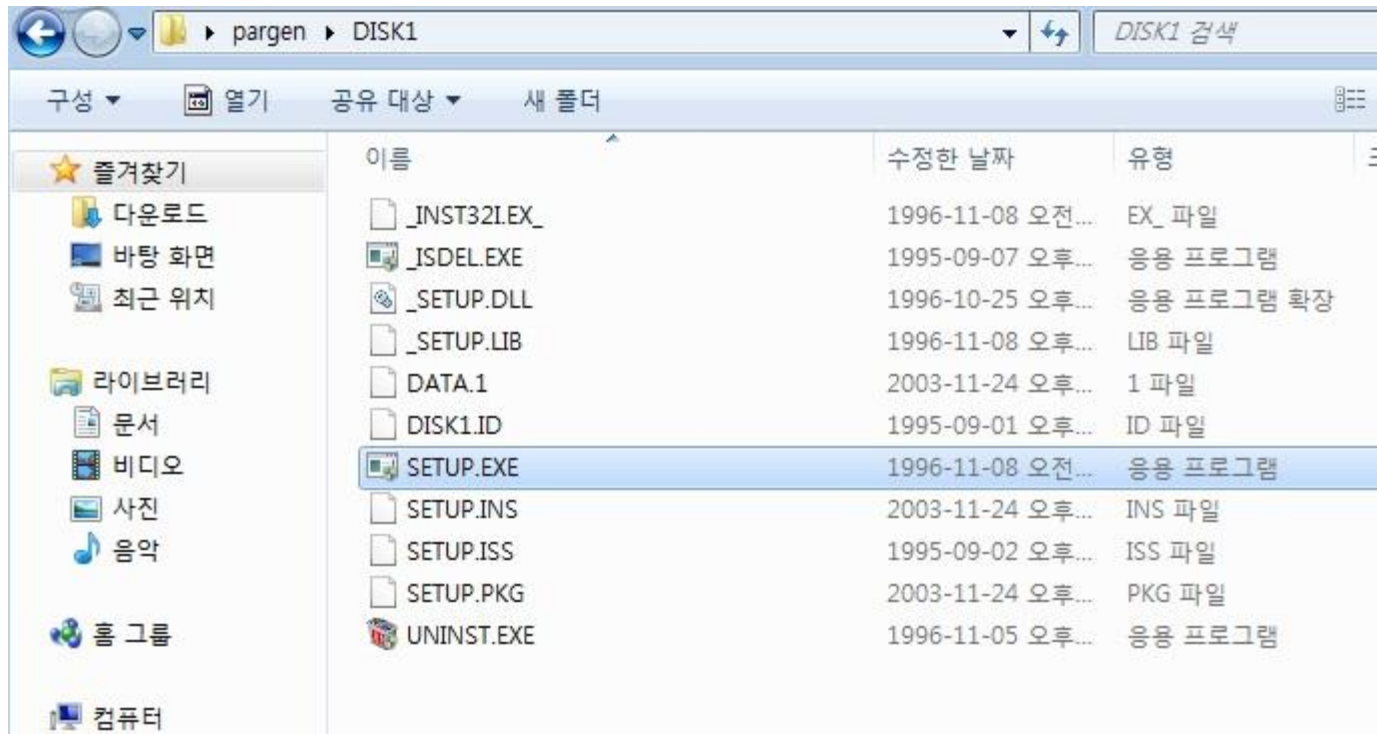
개발도구 : Visual Studio(2010에서 구동에 문제가 있었음)

- ▶ 권장 사양

OS : Windows XP

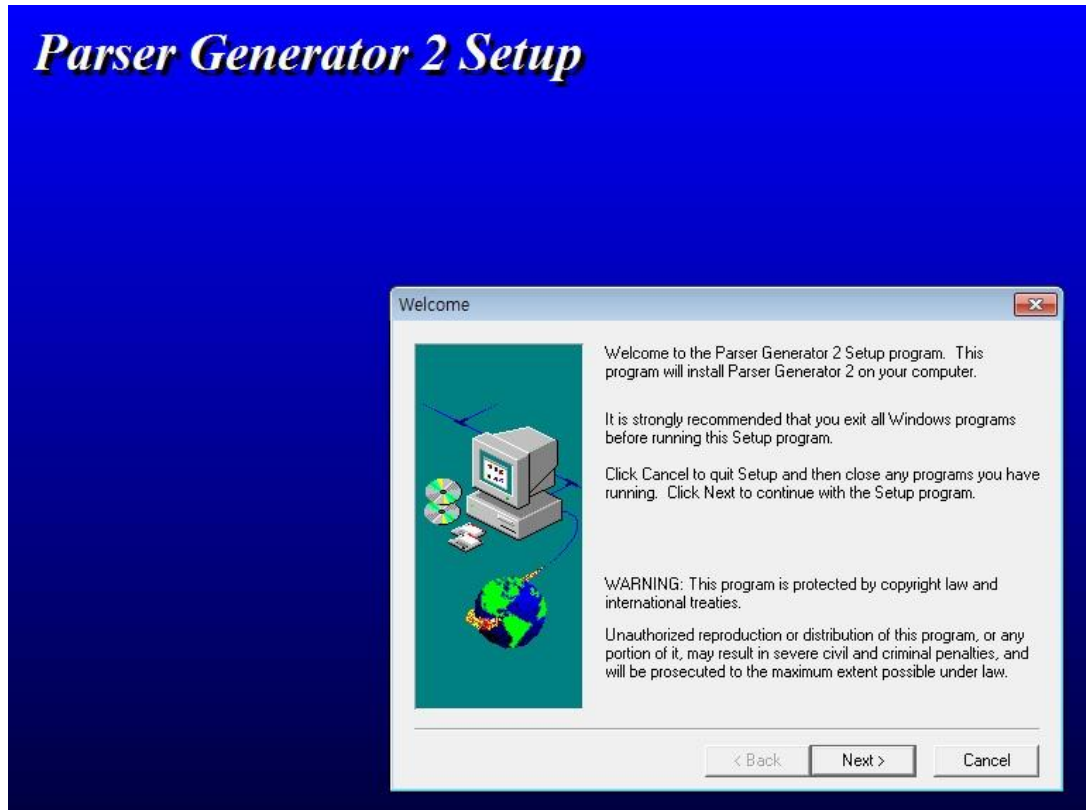
개발도구 : Visual Studio 6.0

Parser Generator 설치



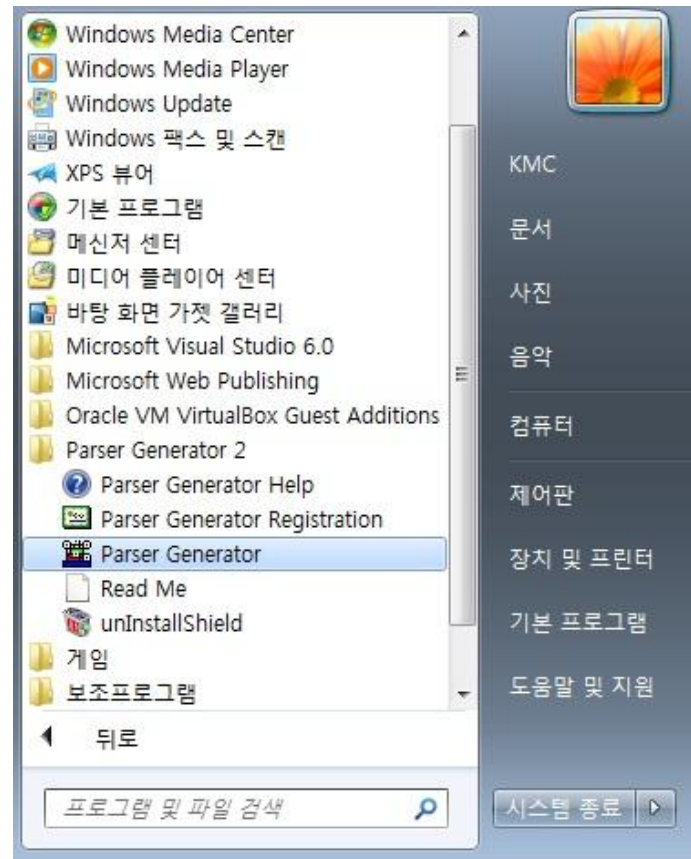
Pargen.zip의 압축 해제 후 DISK 1의 셋업 실행 후 설치

Parser Generator 설치



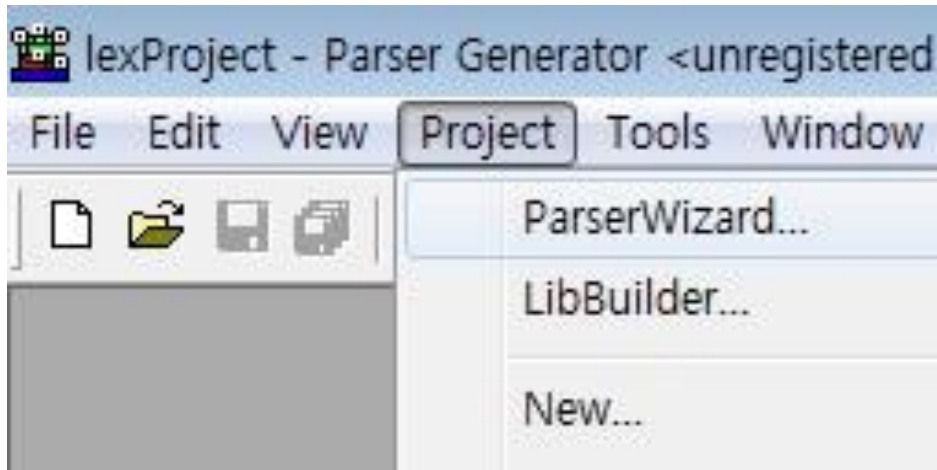
설정 변경 없이 Next를 계속 눌러 설치 완료

Parser Generator 사용법



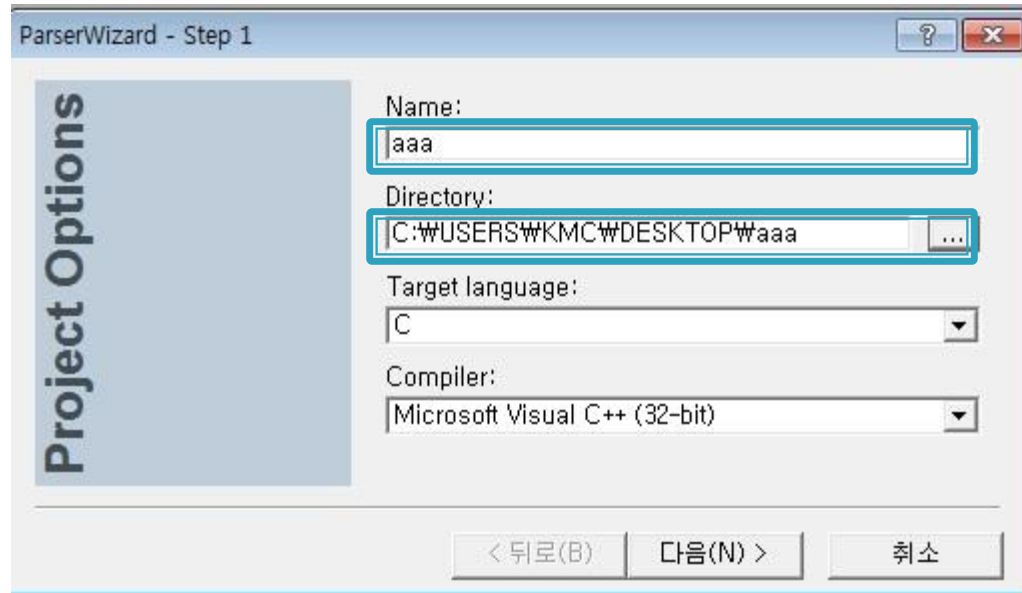
실행파일

Parser Generator 사용법



Project → ParserWizard 실행

Parser Generator 사용법

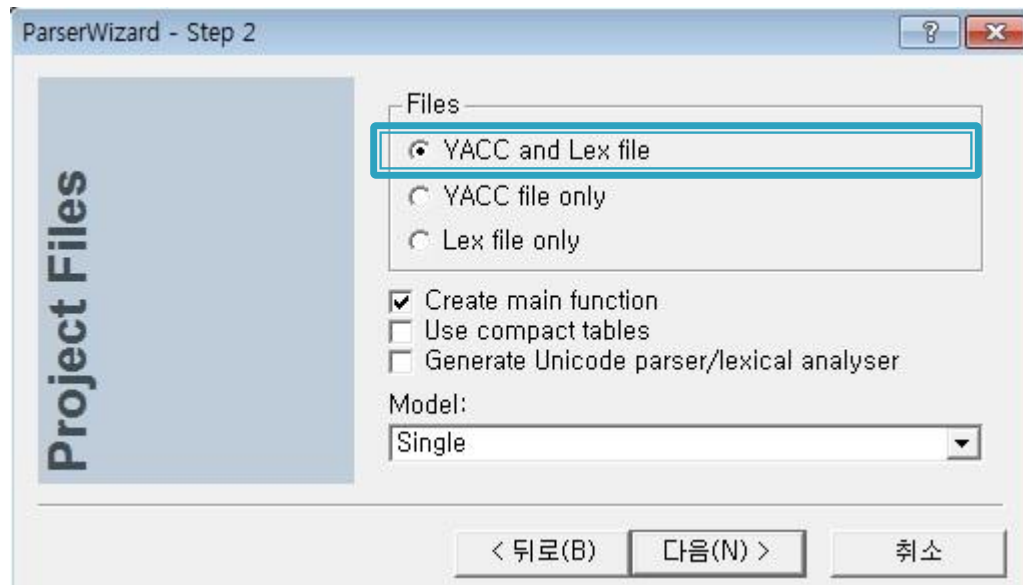


Directory는 Lex & Yacc 생성파일의 저장위치이다.

Name은 Wizard폴더의 이름이다.

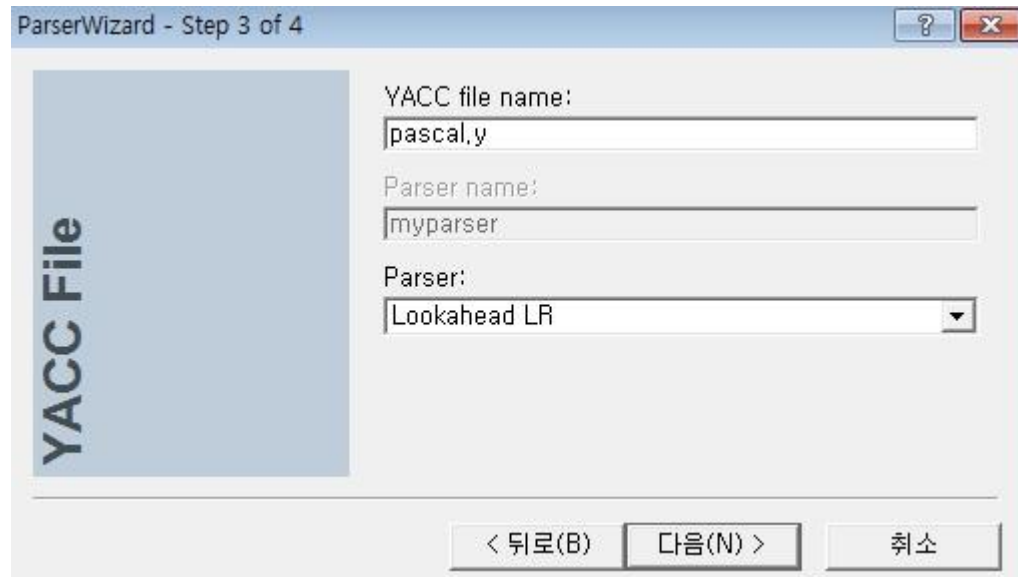
Directory설정 후 Name을 설정을 추천한다(Name 설정 후 Directory를 설정하면 Wizard폴더가 Name이 아닌 정한 이름으로 되어버린다).

Parser Generator 사용법



Yacc과 Lex를 모두 만들것 이므로
YACC and Lex file 선택

Parser Generator 사용법



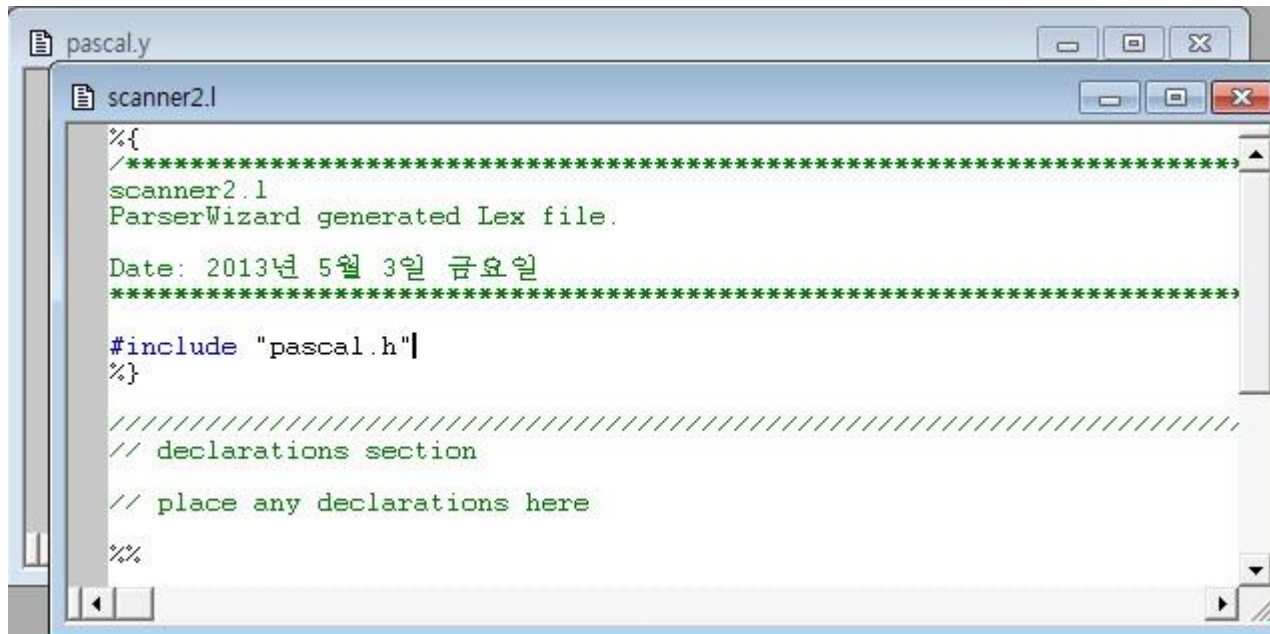
파일명.l을 하면 Lex가 생성되고
파일명.y를 하면 Yacc이 생성된다.
Yacc부터 만드므로 파일명.y를 한다

Parser Generator 사용법



Lex파일을 만들기 때문에
파일명.l로 만든다.

Parser Generator 사용법



```
pascal.y
scanner2.l
%{
/*****
scanner2.l
ParserWizard generated Lex file.

Date: 2013년 5월 3일 금요일
*****/

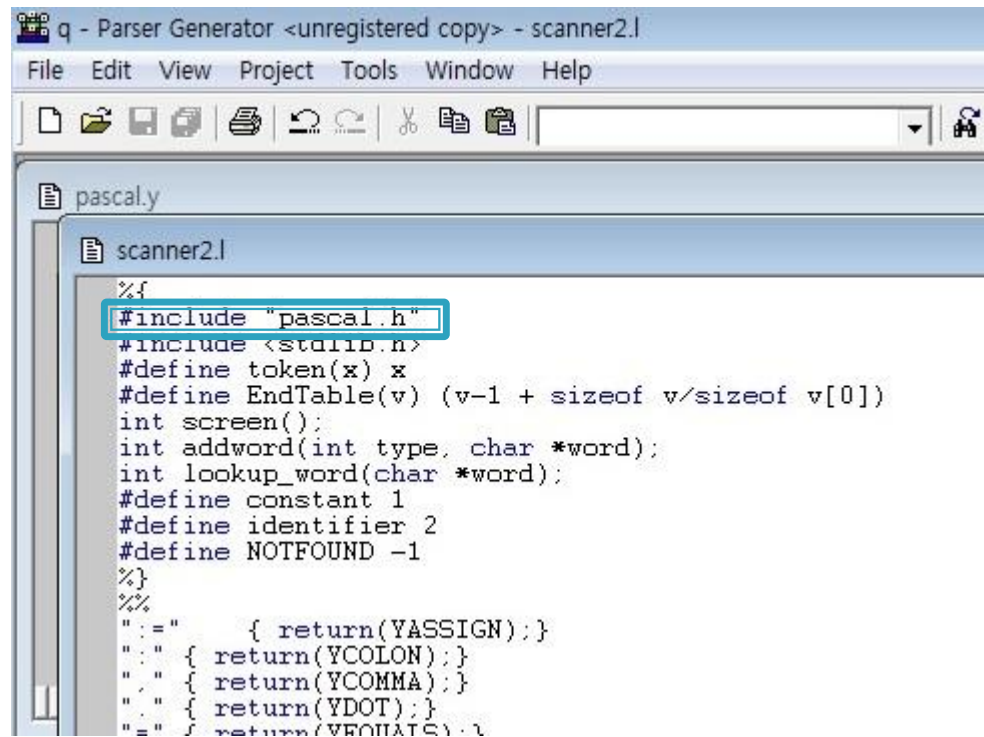
#include "pascal.h"
%}

////////////////////////////////////
// declarations section
// place any declarations here

%%
```

마침 후 결과

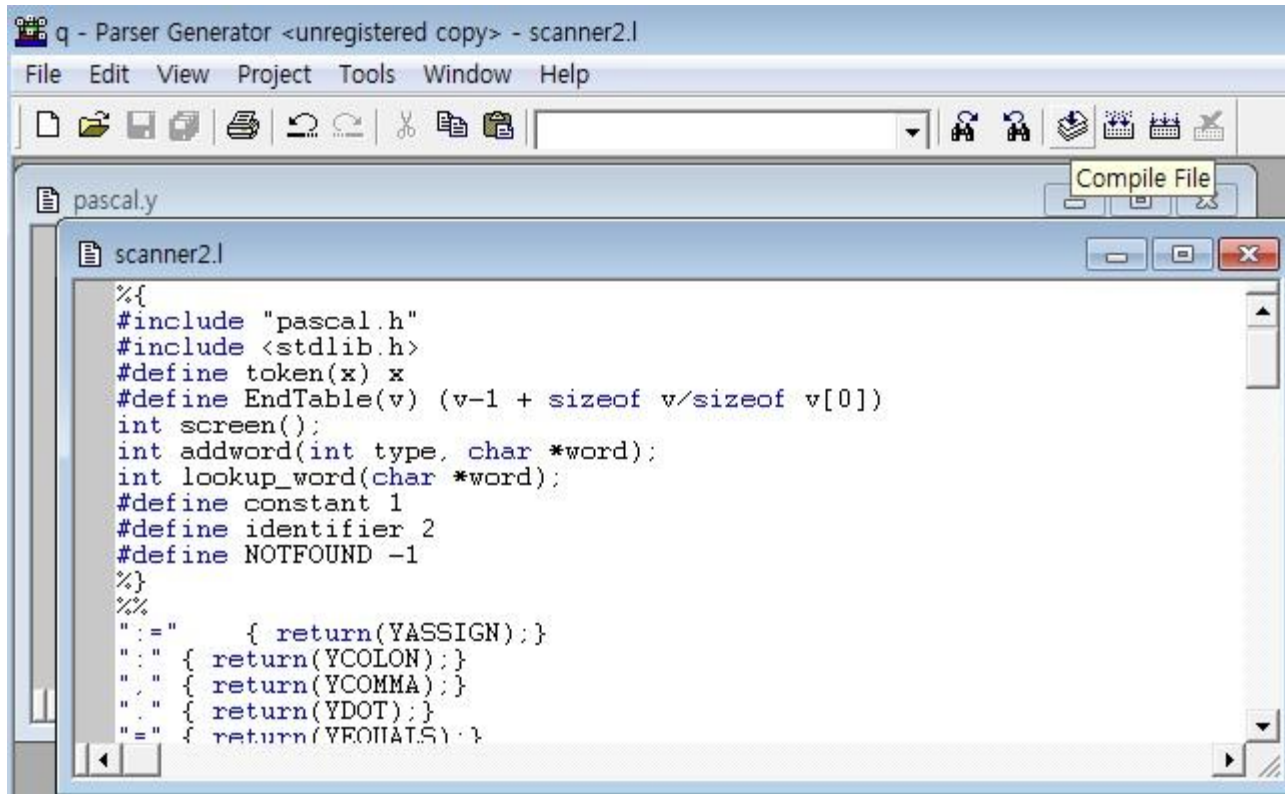
Parser Generator 사용법



```
q - Parser Generator <unregistered copy> - scanner2.l
File Edit View Project Tools Window Help
pascal.y
scanner2.l
%{
#include "pascal.h"
#include <stdlib.h>
#define token(x) x
#define EndTable(v) (v-1 + sizeof v/sizeof v[0])
int screen();
int addword(int type, char *word);
int lookup_word(char *word);
#define constant 1
#define identifier 2
#define NOTFOUND -1
%}
%%
":=" { return(YASSIGN);}
":" { return(YCOLON);}
"." { return(YCOMMA);}
"." { return(YDOT);}
"=" { return(YEQUALS);}
```

scanner2.l에 있는 내용을 복사 후 붙여넣기를 한다. 이때 주의할 점은 yytab.h를 Yacc파일명.h로 바꿔야 한다.

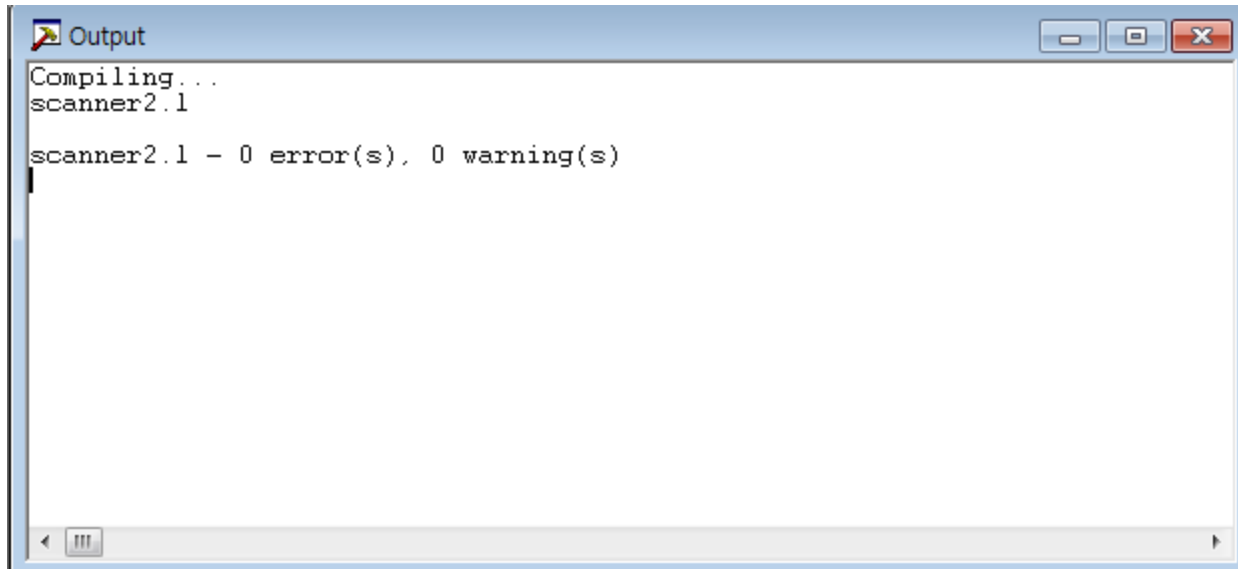
Parser Generator 사용법



```
q - Parser Generator <unregistered copy> - scanner2.l
File Edit View Project Tools Window Help
pascal.y
scanner2.l
%{
#include "pascal.h"
#include <stdlib.h>
#define token(x) x
#define EndTable(v) (v-1 + sizeof v/sizeof v[0])
int screen();
int addword(int type, char *word);
int lookup_word(char *word);
#define constant 1
#define identifier 2
#define NOTFOUND -1
%}
%%
":=" { return(YASSIGN);}
": " { return(YCOLON);}
":," { return(YCOMMA);}
":." { return(YDOT);}
"=" { return(YEQUALS);}
```

Ctrl + s로 저장 후 Compile File 실행

Parser Generator 사용법

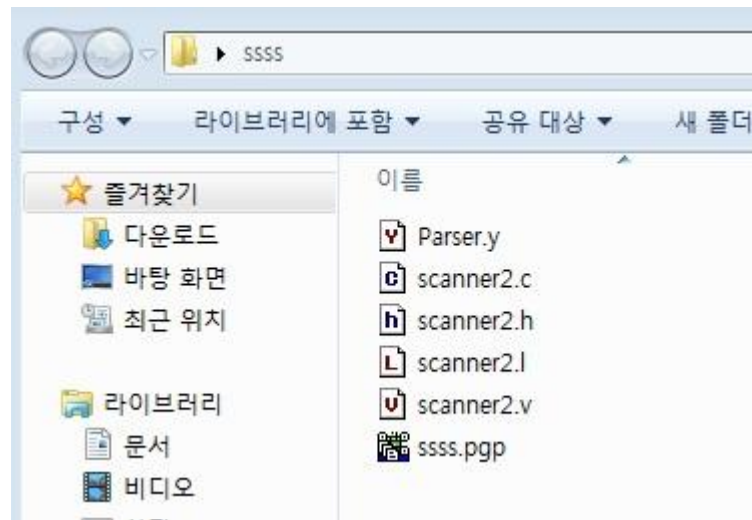


```
Output
Compiling...
scanner2.1
scanner2.1 - 0 error(s), 0 warning(s)
```

The image shows a screenshot of a Windows-style 'Output' window. The window title is 'Output' and it has standard minimize, maximize, and close buttons. The text inside the window reads: 'Compiling...' followed by 'scanner2.1' on the next line, and 'scanner2.1 - 0 error(s), 0 warning(s)' on the third line. A vertical cursor is visible at the end of the third line. The window has a scroll bar at the bottom.

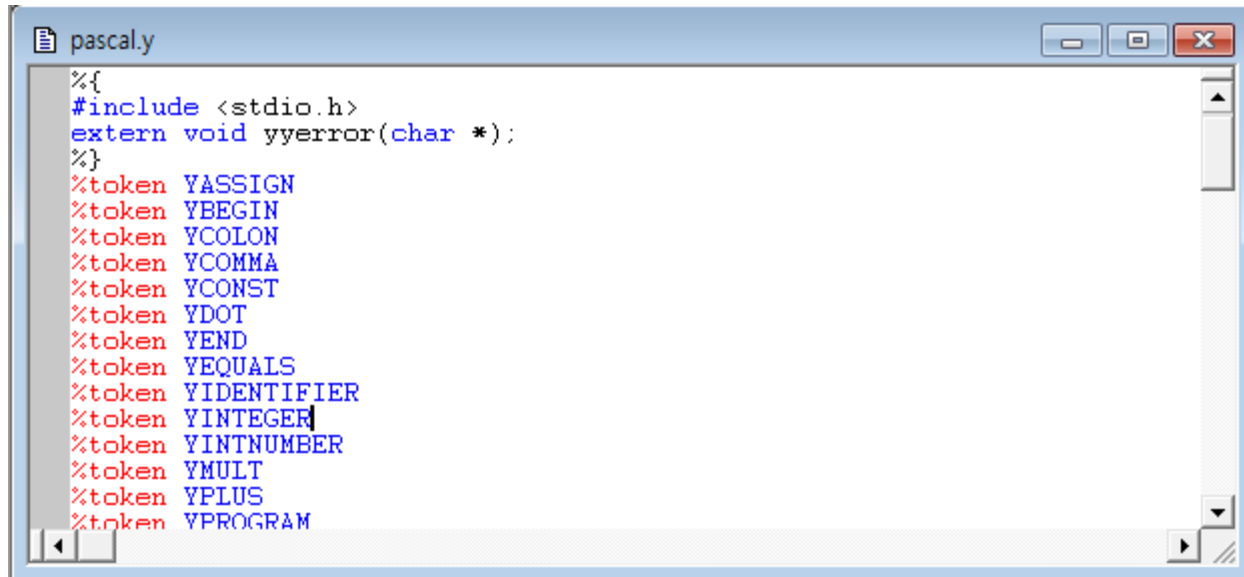
Compile 성공 후 화면

Parser Generator 사용법



scanner2.c,h,l,v가 생성됨을 확인

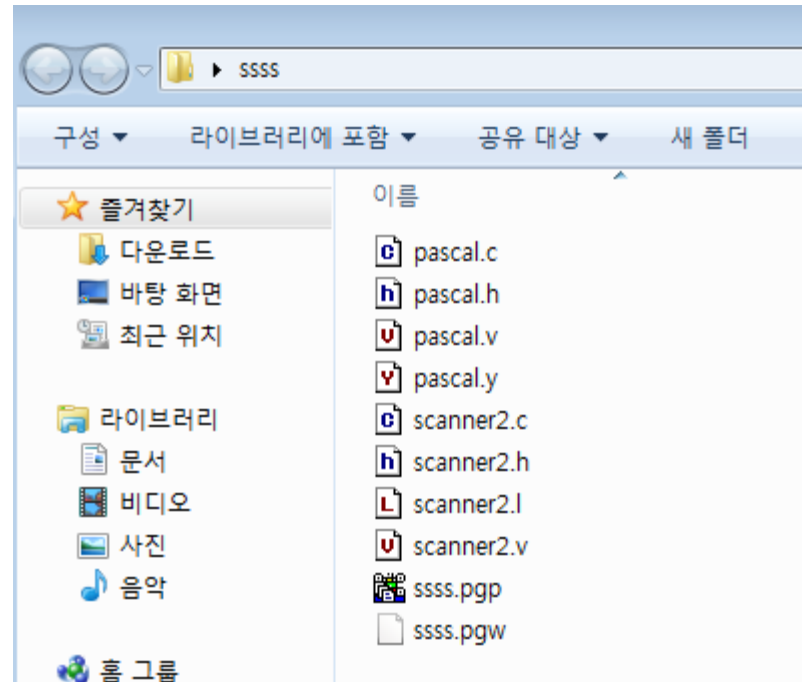
Parser Generator 사용법



```
pascal.y
%{
#include <stdio.h>
extern void yyerror(char *);
%}
%token YASSIGN
%token YBEGIN
%token YCOLON
%token YCOMMA
%token YCONST
%token YDOT
%token YEND
%token YEQUALS
%token YIDENTIFIER
%token YINTEGER
%token YINTNUMBER
%token YMULT
%token YPLUS
%token YPROGRAM
```

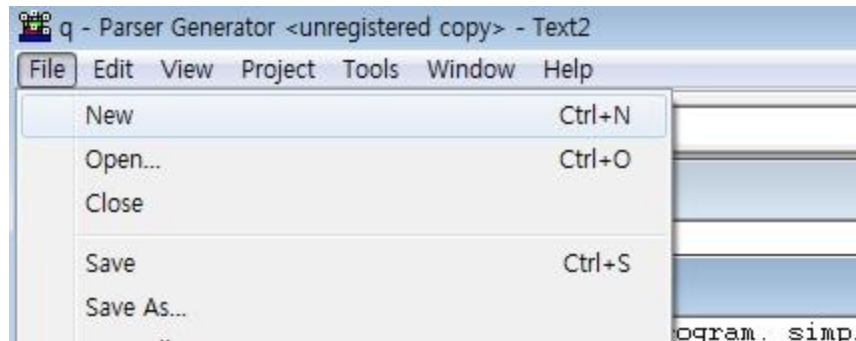
pascal.y를 복사 후 붙여넣기

Parser Generator 사용법



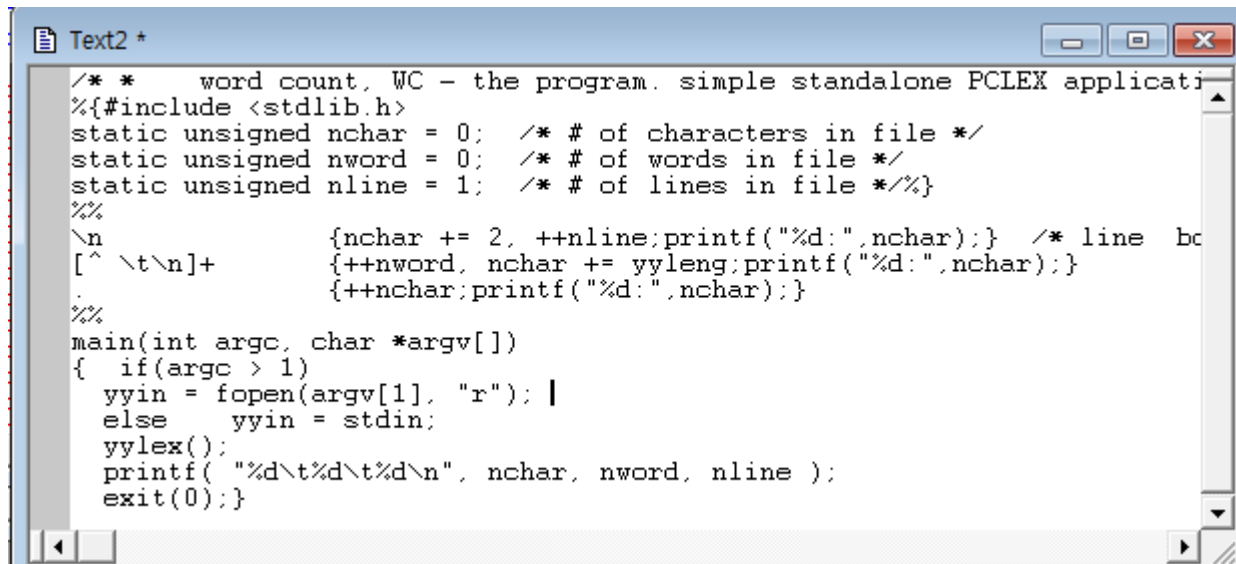
저장 후 Compile 실행 및 파일 생성 확인

Parser Generator 사용법



Parser Wizard 후 File → New 실행

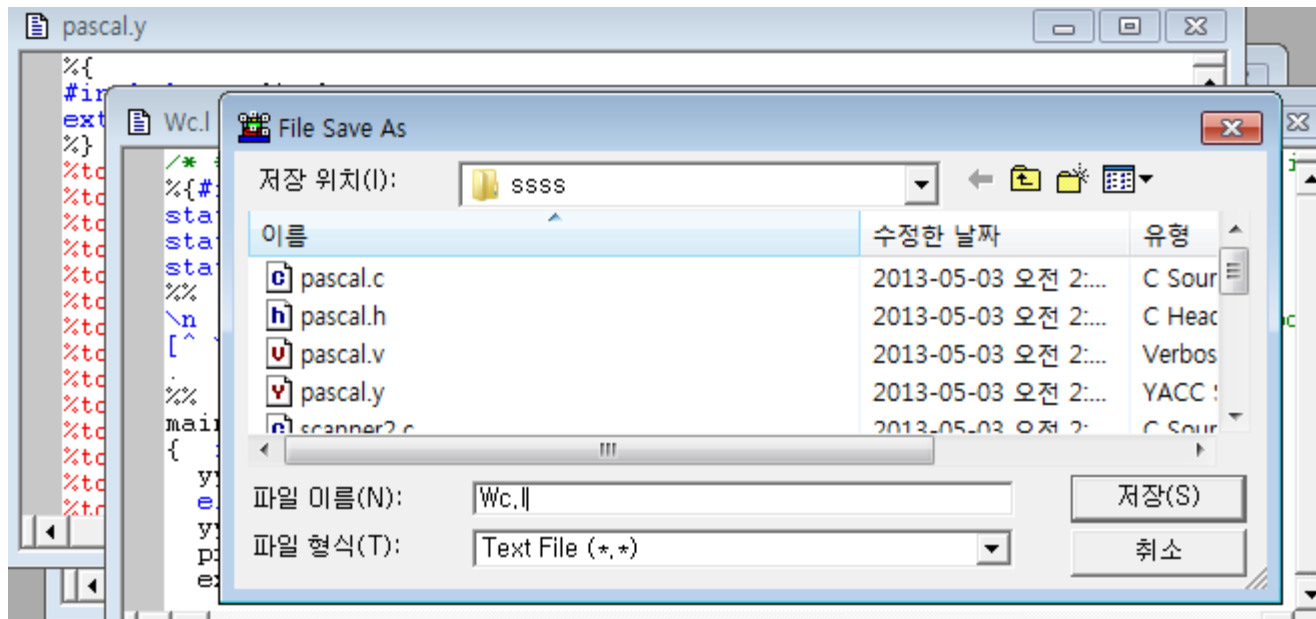
Parser Generator 사용법



```
Text2 *
/* *   word count, WC - the program. simple standalone PCLEX applicati
%{#include <stdlib.h>
static unsigned nchar = 0; /* # of characters in file */
static unsigned nword = 0; /* # of words in file */
static unsigned nline = 1; /* # of lines in file */%}
%%
\n          {nchar += 2, ++nline;printf("%d:",nchar);} /* line bc
[^ \t\n]+   {++nword, nchar += yyleng;printf("%d:",nchar);}
.          {++nchar;printf("%d:",nchar);}
%%
main(int argc, char *argv[])
{  if(argc > 1)
   yyin = fopen(argv[1], "r"); |
   else  yyin = stdin;
   yylex();
   printf( "%d\t%d\t%d\n", nchar, nword, nline );
   exit(0);}
```

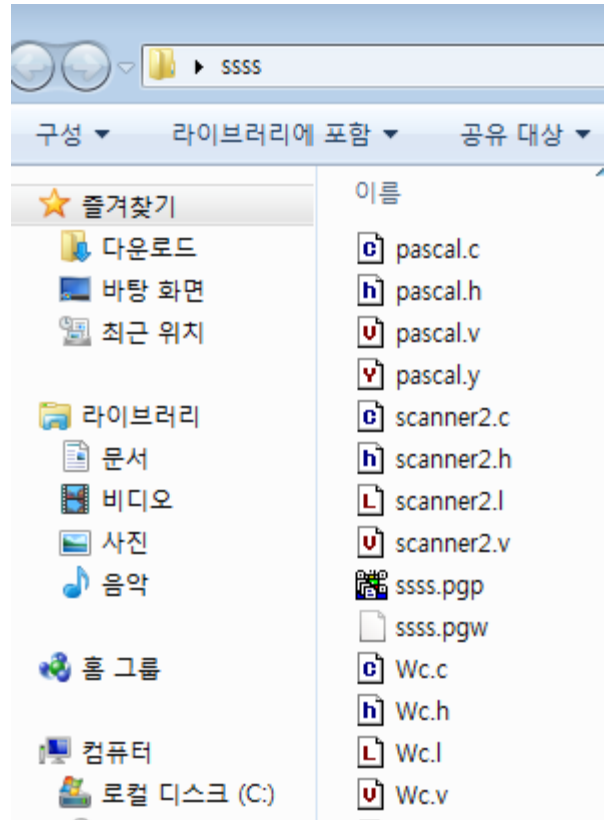
Wc.l 복사

Parser Generator 사용법



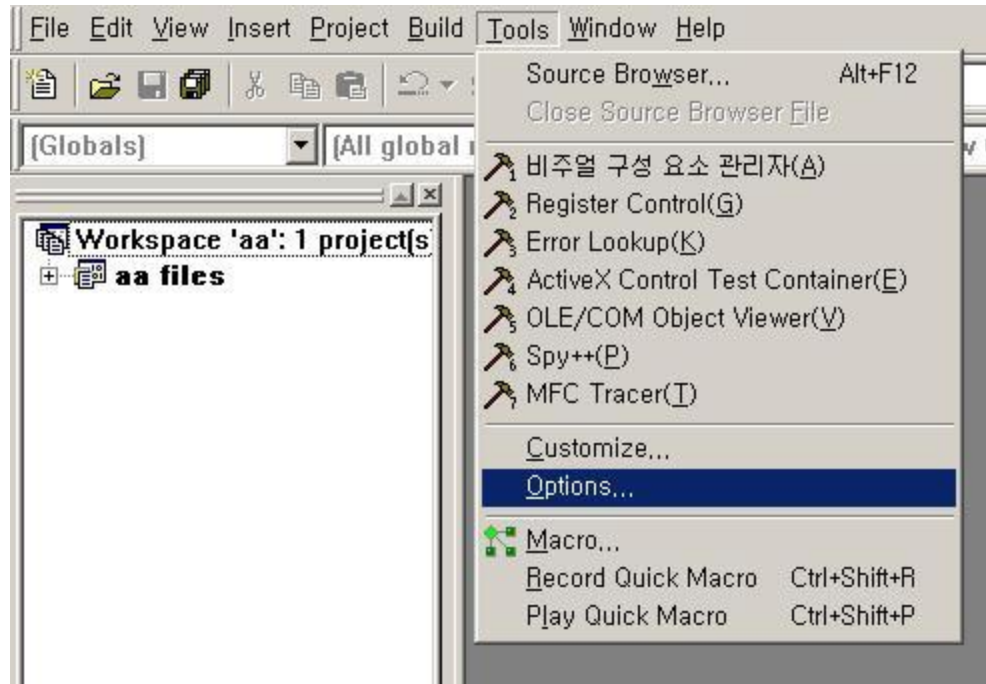
파일 저장 시 Lex이면 파일명.l로
Yacc이면 파일명.y로 저장

Parser Generator 사용법



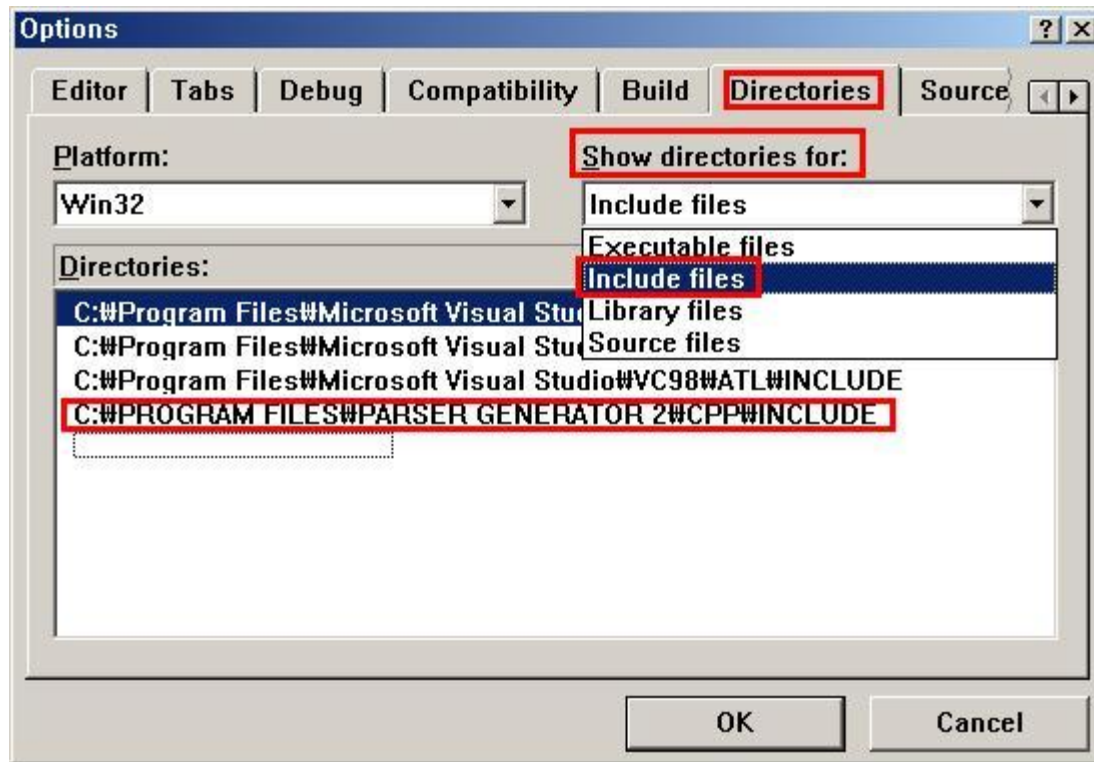
컴파일을 후 파일 생성 확인

Visual Studio 6.0 설정



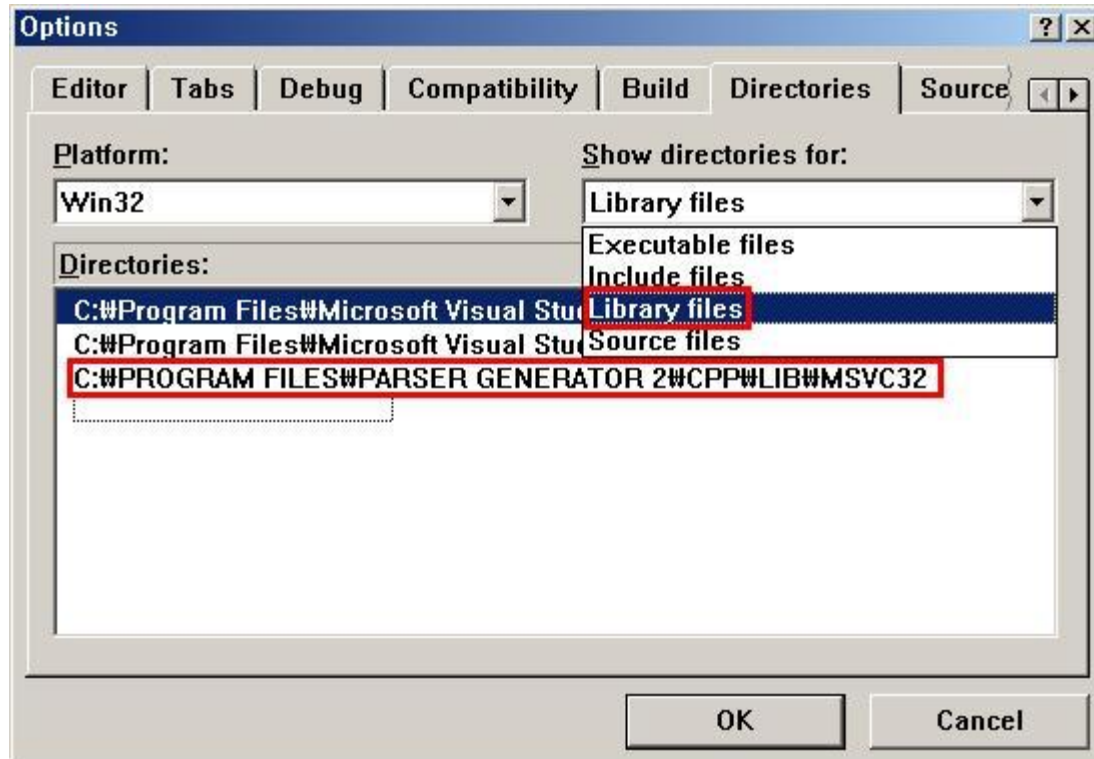
Tools → Options 클릭

Visual Studio 6.0 설정



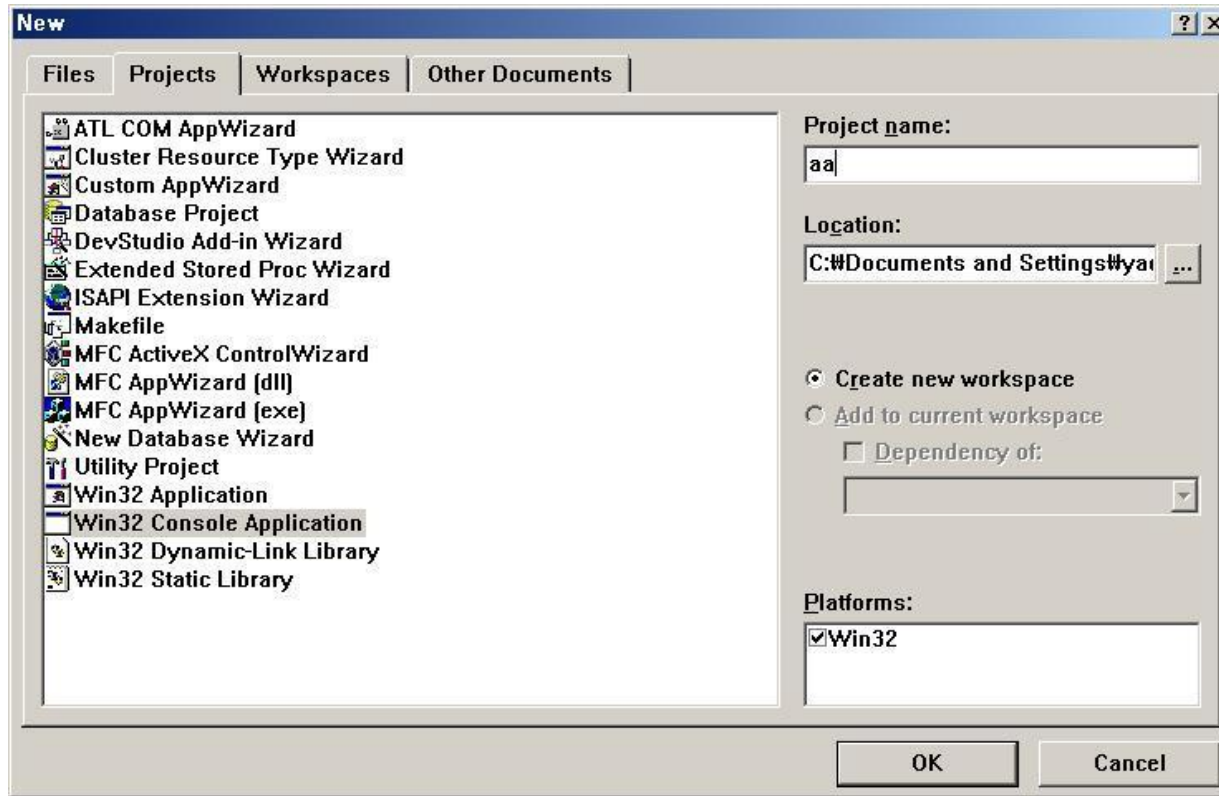
Directories → Show directories for:에서
Include files를 선택하고 Parser Generator가 설치된 폴더에서
CPP\INCLUDE를 지정

Visual Studio 6.0 설정



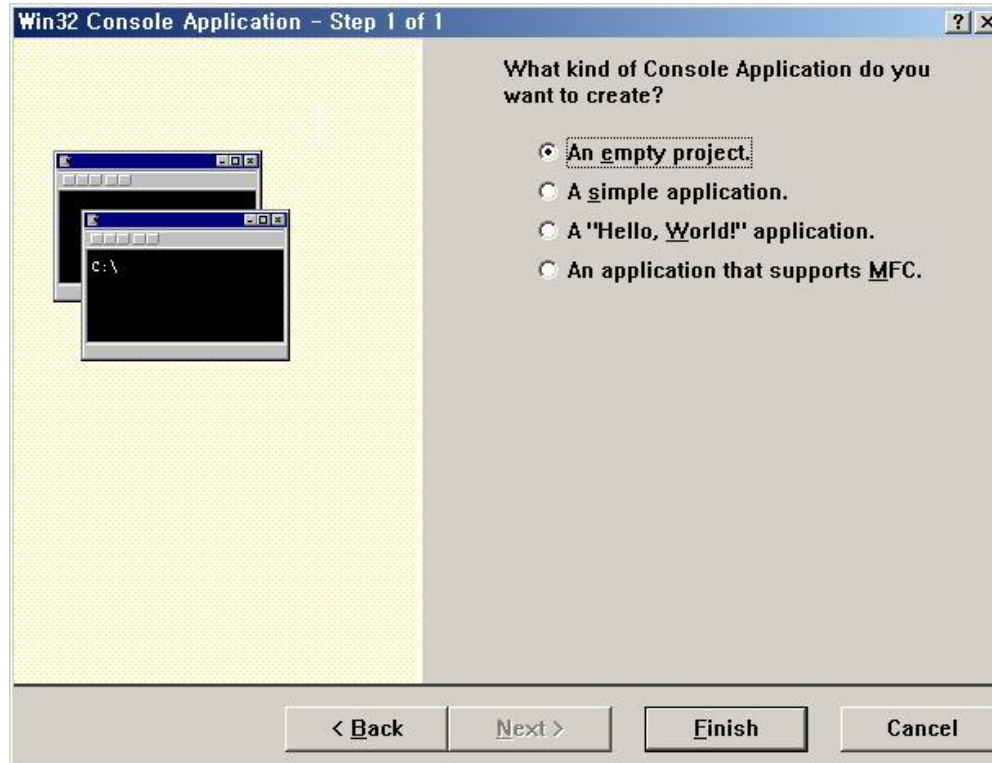
Library files를 선택하고 Parser Generator가
설치된 폴더에서 CPP\LIB\MSVC32를 지정

Visual Studio 6.0 설정



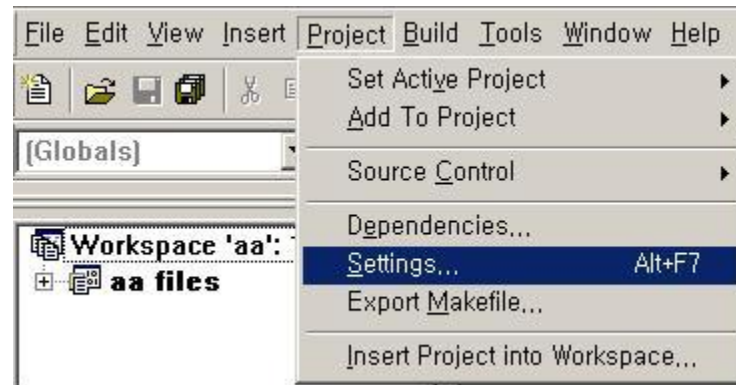
Win 32 Console Application 프로젝트 생성

Visual Studio 6.0 설정



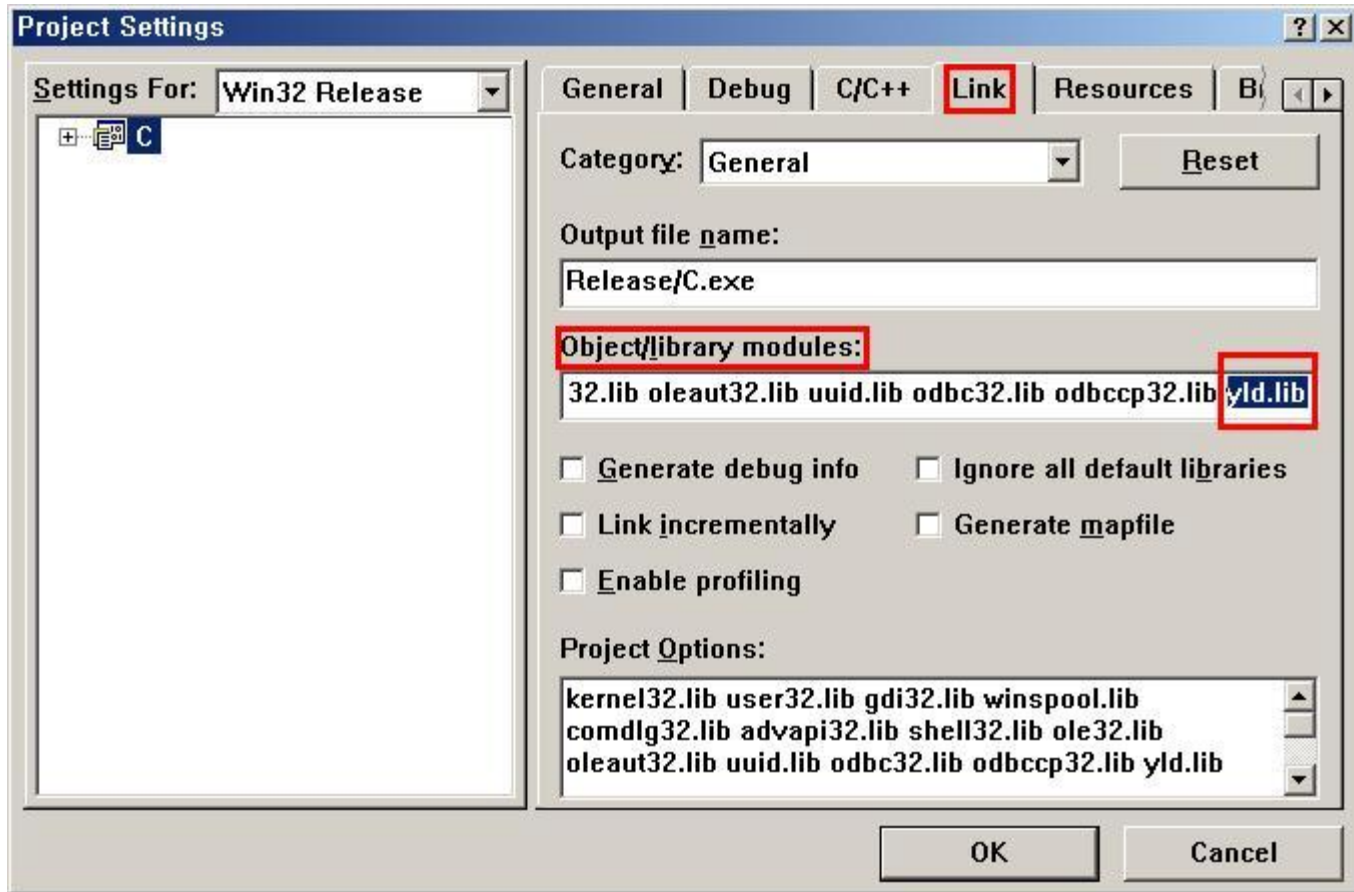
Win 32 Console Application 프로젝트 생성

Visual Studio 6.0 설정



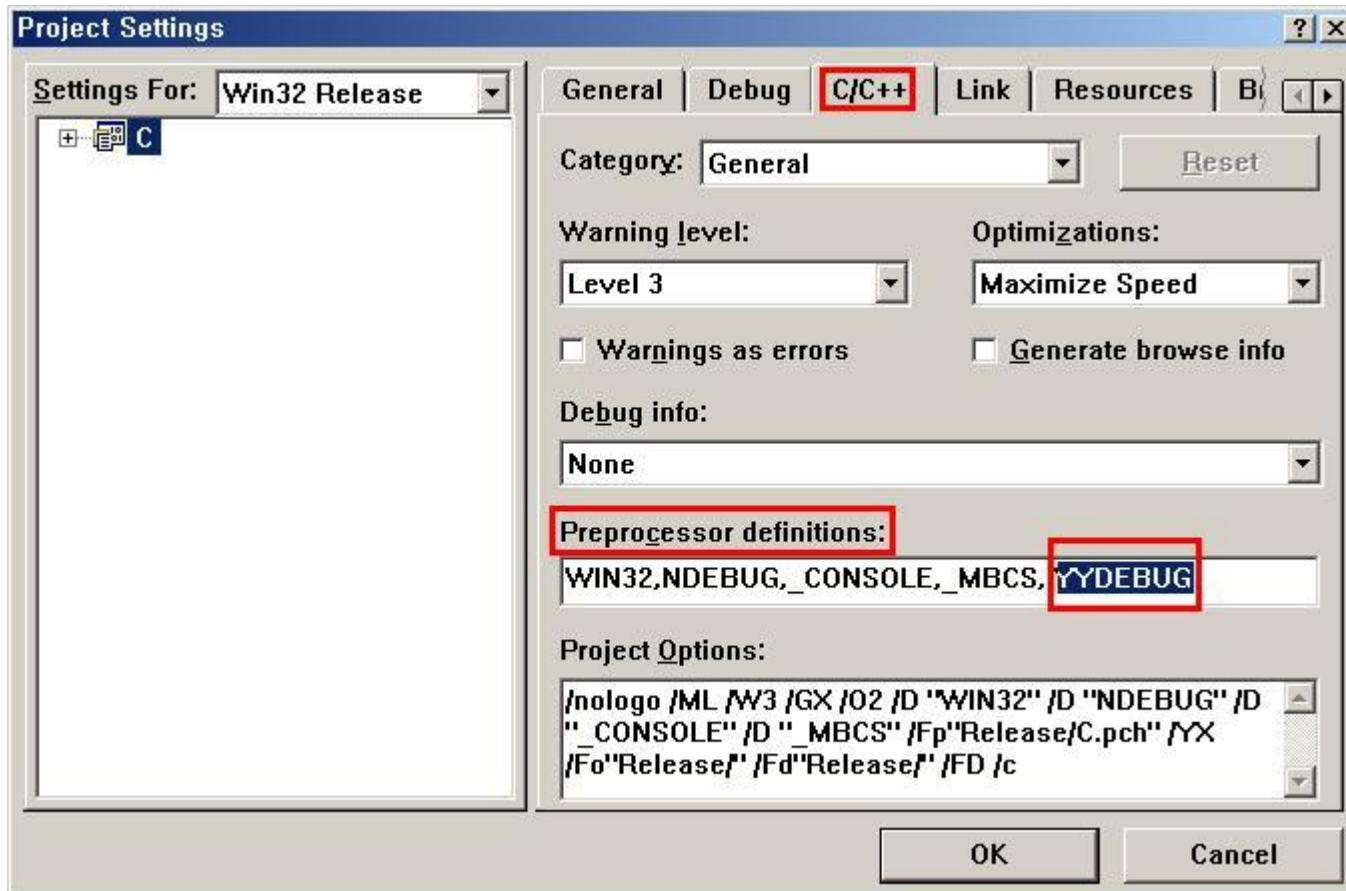
Project → Settings 클릭

Visual Studio 6.0 설정



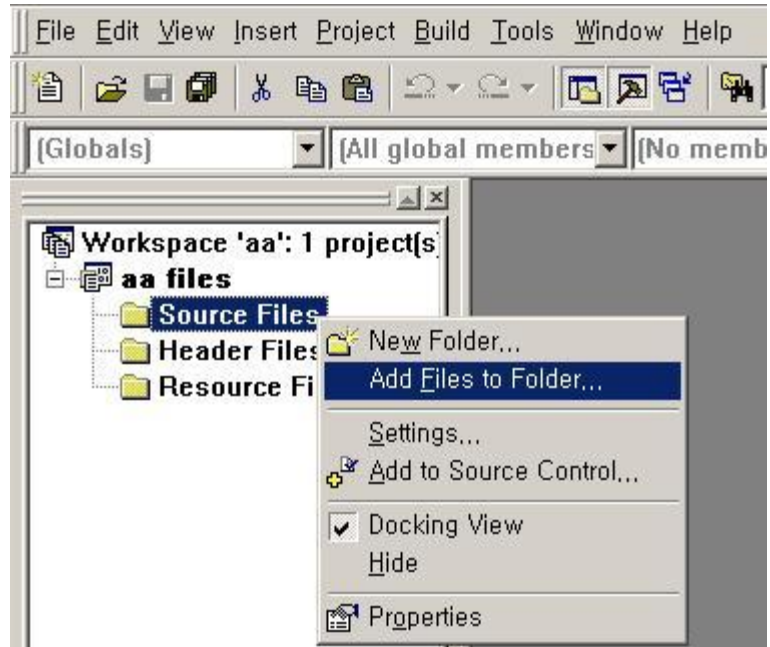
Link Tab을 선택하여 Object/Library Module 필드에 yld.lib를 추가

Visual Studio 6.0 설정



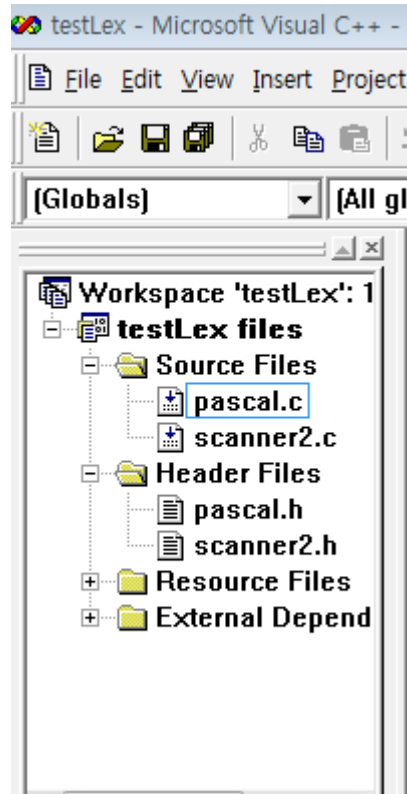
C/C++ Tab을 선택하여 Preprocessor Definitions Box에 "YYDEBUG"를 입력

Visual Studio 6.0 설정



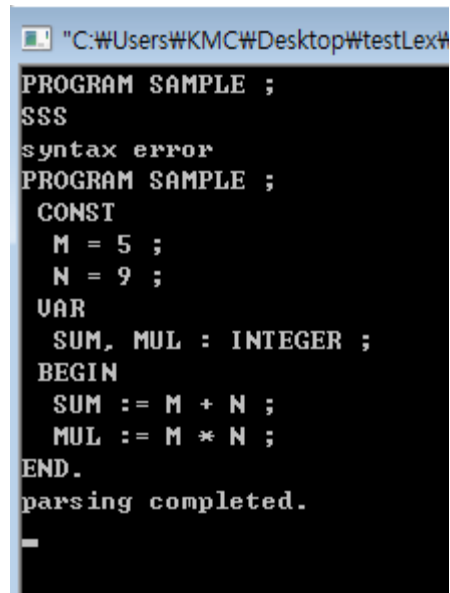
Add Files to Folder...를 이용해 만든 Lex와 Yacc파일을 추가한다.

Visual Studio 6.0 설정



파일을 추가한 모습

Visual Studio 6.0 설정



```
"C:\Users\KMC\Desktop\testLex#  
PROGRAM SAMPLE ;  
SSS  
syntax error  
PROGRAM SAMPLE ;  
  CONST  
    M = 5 ;  
    N = 9 ;  
  VAR  
    SUM, MUL : INTEGER ;  
  BEGIN  
    SUM := M + N ;  
    MUL := M * N ;  
  END.  
parsing completed.  
-
```

실행 결과

출처

- ▶ <http://blog.naver.com/yadangcs?Redirect=Log&logNo=50023070953>