# MKS

# MKS Lex & Yacc

Do you need powerful compiler construction tools? Do you need to better automate the processing and translation of user input? Do you need tools to help you build language translators or database query languages? Does your ideal solution integrate with your development environment?

For software development professionals, any tool that makes the job easier is a valuable commodity. MKS Lex & Yacc simplifies the development of interpretive and analytical software such as customized compilers and parsers. By automating complex processes like user input translation, MKS Lex & Yacc provides valuable aid to those who write compilers, database query languages and text processing applications. This allows developers to concentrate more on creativity, and spend less time on the monotony of lexical analysis and grammar matching.

### Integrated with Microsoft Visual Studio
MKS Lex & Yacc is integrated into Microsoft Visual Studio and VS.NET with the MKS Lex & Yacc MSVC Add-in allowing you to build and manipulate your Lex and Yacc source files within the VC++ IDE.

### Typical Uses
MKS Lex & Yacc can be used to quickly and easily build:

- Compiler front-ends (scanning and parsing phase of compilation).

- Interpreters for interpreted languages, for example, the calculator component of a spreadsheet.

- Language translators.

- "Little languages" such as database query and page description languages.

- Word processing applications.

### Interoperability
MKS Lex & Yacc is fully compatible with UNIX System V and BSD and tracks POSIX and X/Open standards for open systems.

MKS Lex & Yacc generates very portable C or C++ code. The output can also be optimized for Windows by creating the scanner and parser tables as loadable resources providing more efficient use of memory.

What's more, the source code created and library routines used by MKS Lex & Yacc may be freely distributed provided that the copyright notices are not removed.

The user is free to sell or distribute programs created using MKS Lex & Yacc, subject to observance of the terms of the Program License Agreement and Additional License Terms for Development Products packaged with MKS Lex & Yacc Libraries

Full source code for all library functions is included and the libraries are pre-built for all supported compilers.

*I've tried the other Yaccs and MKS Lex & Yacc is by far the best on the market, with the best documentation and the neatest technical support people."*

**Tom Campbell,**
Systems & Software Inc.

### MKS Lex
MKS Lex builds a lexical analyzer, a C or C++ function that takes a stream of input and breaks it up into tokens according to specified rules. Some of the unique features of MKS Lex are:

- The full 8-bit character set, including NULL, is scanned.

- Supports multiple scanners in one program.

- Windows compatible resource files reduce data segment requirements.

- Windows compatible error handling.

- Exclusive start conditions allow creation of scanners which use conflicting sets of rules (based on context) in a single scanner

- Able to:
    - Pre-process input.
    - Scan from strings, streams or files.
    - Remap character sets.

### MKS Yacc
MKS Yacc (Yet-Another-Compiler-Compiler) builds a parser, a C or C++ function that takes a stream of tokens (such as those provided by MKS Lex) and matches them against the specified grammar. Some of the unique features of MKS Yacc are:

- Supports multiple parsers in one program.

- Selection preference syntax resolves conflicts.

- User can determine where parsing tables are located:

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- DYYSTATIC allocates tables statically.
- DYYALLOC allocates tables dynamically, generating re-entrant parser.
- Detects syntax errors earlier than parsers generated by UNIX yacc.

## Documentation
Integrated on-line manual includes:

- Installation guide.
- Lex & Yacc tutorial including a new section on symbol table management. Examples are written in C and C++ and are available on-line.
- MKS Lex programming guide.
- MKS Yacc programming guide.

- Reference guide, glossary and index.

## Tutorial Examples
MKS Lex & Yacc ships with a number of examples and tutorials, in both C and C++, to get you up and going as quickly as possible. Each example builds upon the previous and introduces more advanced features and concepts.

- **dc1-6** — from calculator to compiler introducing concepts like: memory variables; conditional statements; function parameters; declarations and C-style scoping.
- **Additional Example Grammars**
  - Pascal parser, cross referencer and tag generator.

- dBase IV, SQL, HyperTalk and PIC.
- Scanner/parser for ANSI C, FORTRAN.
- Grammar for C++ and Java.

## In a Nutshell
The MKS Lexical scanner and MKS Yacc parser generators form a powerful program generation tool which processes any language specification you provide into usable, portable, and expandable C or C++ code.

Learn more about the rest of the MKS product line and services by pointing your browser to www.mkssoftware.com.

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