Trends in der Softwaretechnik:
Domaenenspezifische Sprachen
Textual DSLs

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A general-purpose programming language (GPL) is a programming language designed to be used for writing software in a wide variety of application domains.

From Wikipedia
a domain-specific language (DSL) is a programming language or specification language dedicated to a particular problem domain, a particular problem representation technique, and/or a particular solution technique.

from Wikipedia
Example: Parsing

Parsing in C

```c
void statement (void) {
    if (accept (ident)) {
        expect (becomes);
        expression ();
    } else if (accept (callsym)) {
        expect (ident);
    } else if (accept (beginsym)) {
        do {
            statement ();
        } while (accept (semicolon));
        expect (endsym);
    } else if (accept (ifsym)) {
        condition ();
        expect (thensym);
        statement ();
    } else if (accept (whilesym)) {
        condition ();
        expect (dosym);
        statement ();
    }
}
```
Example: Parsing

Parsing in EBNF

```
statement
    = ident "\:=" expression
    | "call" ident
    | "begin" statement {";" statement} "end"
    | "if" condition "then" statement
    | "while" condition "do" statement
```
More Examples

- \LaTeX for typesetting
- SQL for relational algebra
- Matlab for matrix operations
- HTML for websites
- RegExp for text matching
- CSV for tabular data
Language-Oriented Programming

- DSLs become the central artifact of decomposition and reuse in building software systems
Issues

- Implementation
- Non-executable languages
- Notational convenience
- Language composition
- Tool support for language designer
- Tool support for language user
Questions?