

## Lexical elements

### Project structure

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#### Separate compilation

Practically all languages provides

(But Pascal: originally has one compilation unit)

Java: referred other classes should be in CLASSPATH

Ada: good separation of interface and implementation

C/C++: Header files, translation units: ODR violation is not always detected

### Language structure

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#### Syntax

The correct grammar

What character set

Pascal

C/C++ digraph/trigraph

CLU/Eiffel: full ASCII

Java: Unicode

C#: Unicode

Uppercase/lowercase diff (no: Pascal, Fortran, ADA)

Strict column coding position

Whitespace's role (like make: space or tab) (Fortran, Algol68: ignored)

C/C++: comments, preprocessor directives, language tokens

#### Comments

Fortran C (on pos 1).

Nested? (Algol68) /\* \*/ // Javadoc, Doxygen

#### Tokens:

keywords

identifiers

literals (constants)

operators

separators

#### Keywords

and other reserved words (C++: operator"" \_i)

#### Identifiers:

Length limit (Compiler, linker)

Can we use (prefix of) keywords

C#: @int (verbatim identifier)

Literals:

12

014

0xC

0b000001100

floating point

char (escape seq).

string

Operators:

Prefix, postfix, infix

Separators:

; separator or terminator

Algol68: begin = (

issue of dangling if