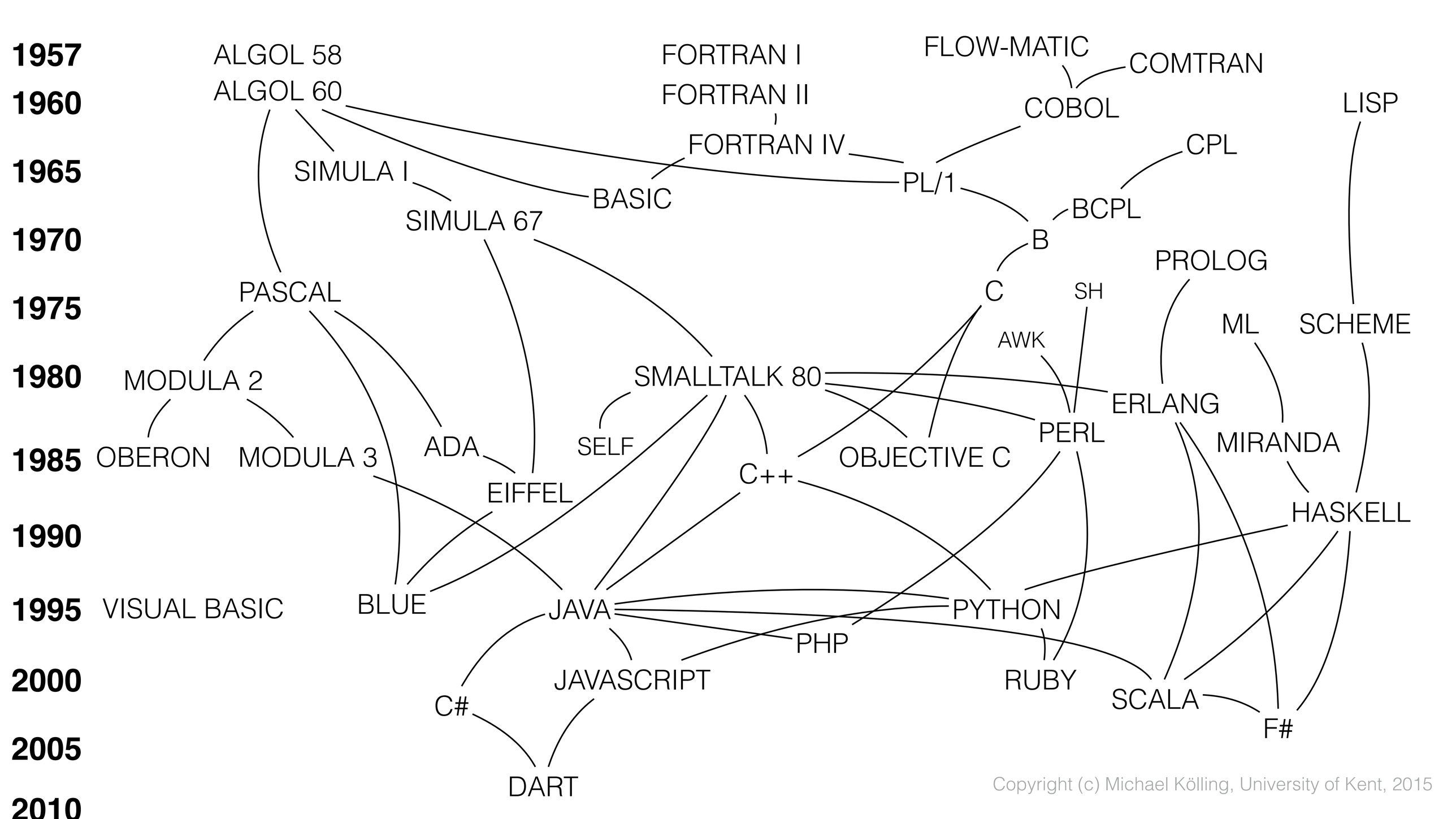
What is OOP
(and why does it matter?)

CAS conference 2015

Michael Kölling
University of Kent



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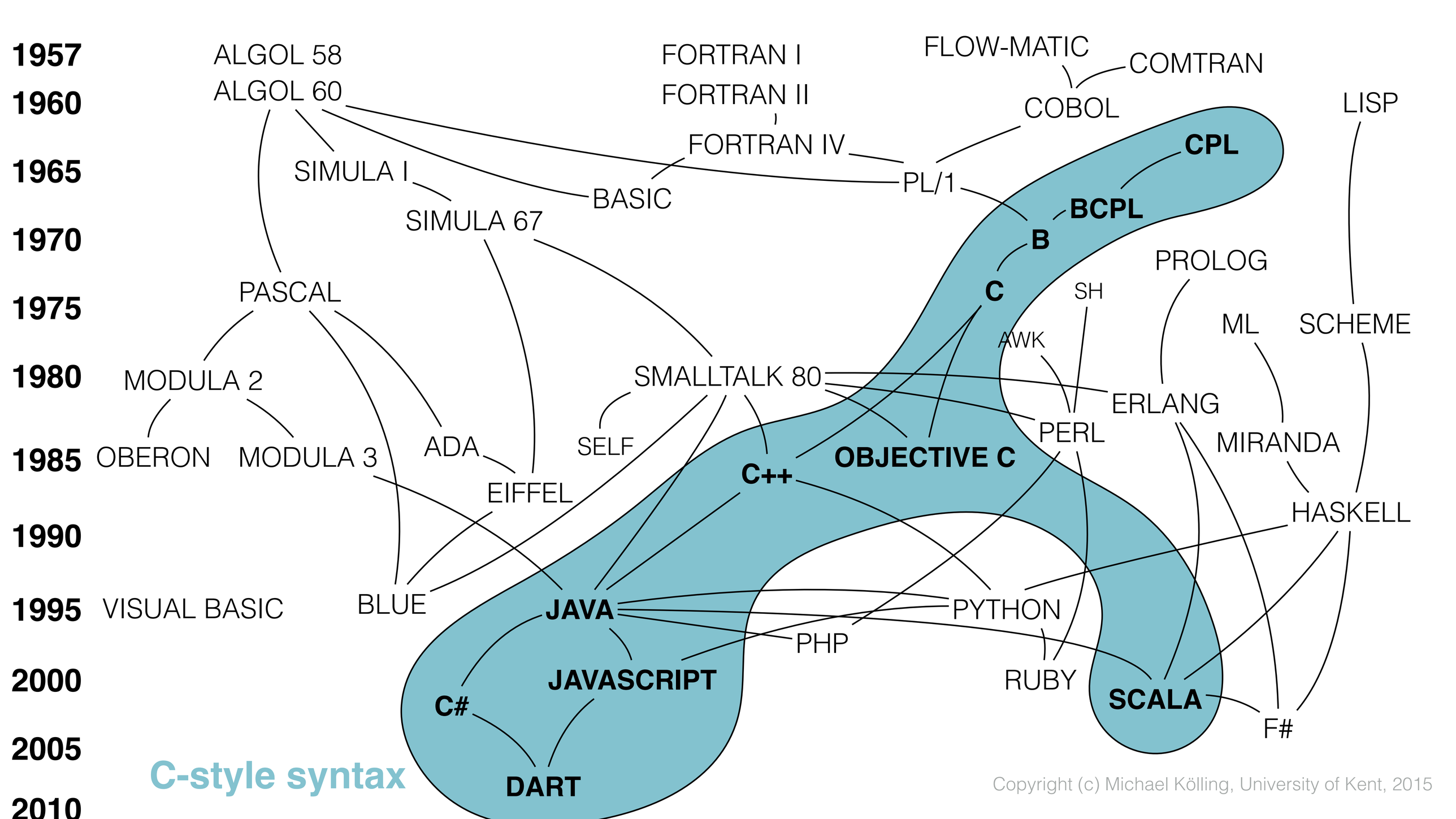
1957
1960
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ALGOL 58
ALGOL 60
FORTRAN I
FORTRAN II
FORTRAN IV
FLOW-MATIC
COMTRAN
COBOL
LISP
SIMULA I
SIMULA 67
BASIC
PL/1
CPL
BCPL
B
C
PASCAL
PROLOG
SH
AWK
ML
SCHEME
MODULA 2
SMALLTALK 80
ERLANG
PERL
OBERON
MODULA 3
ADA
SELF
EIFFEL
OBJECTIVE C
C++
MIRANDA
HASKELL
VISUAL BASIC
BLUE
JAVA
PYTHON
PHP
JAVASCRIPT
RUBY
SCALA
C#
F#
DART
C-style syntax
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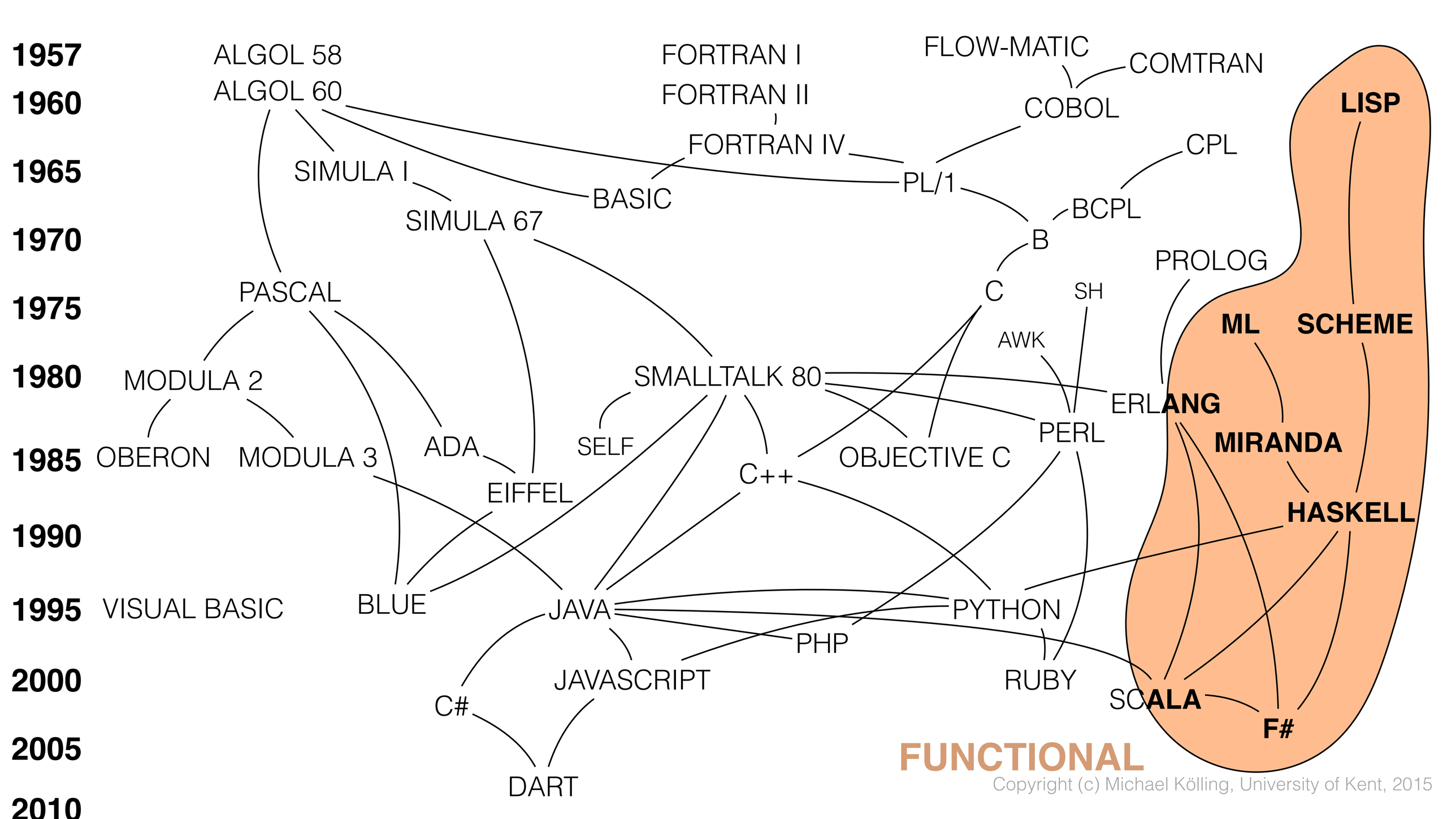

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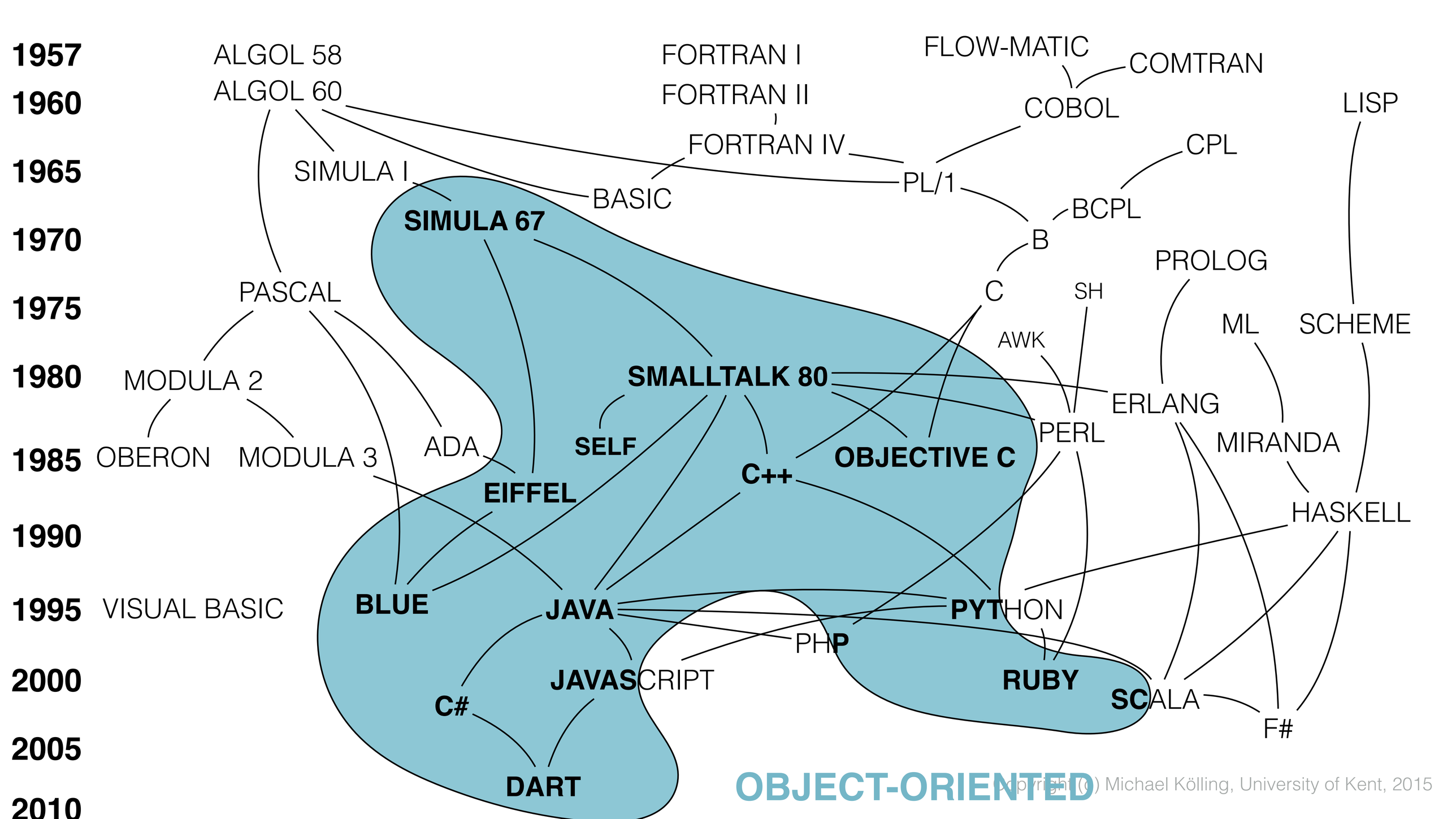

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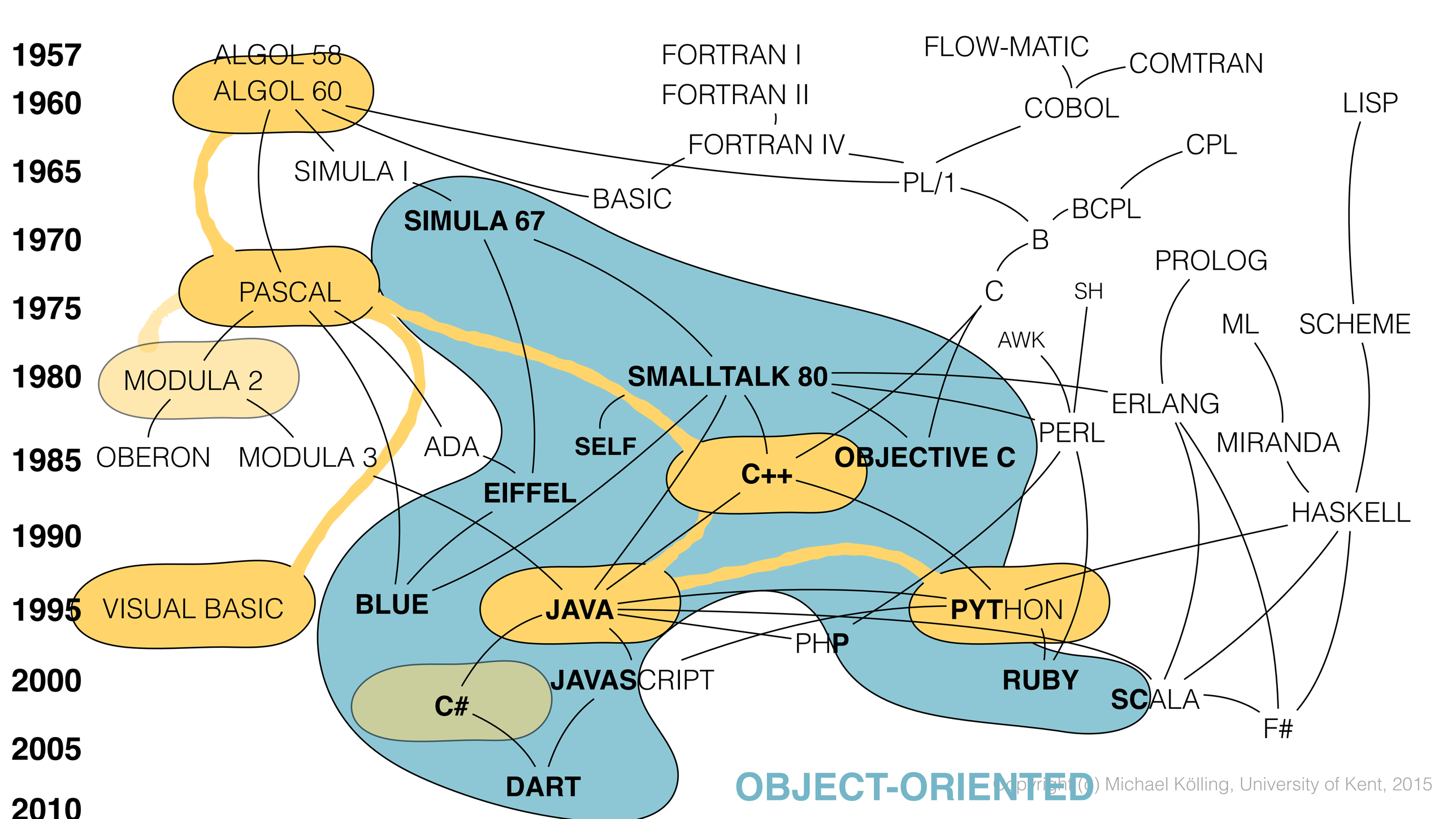

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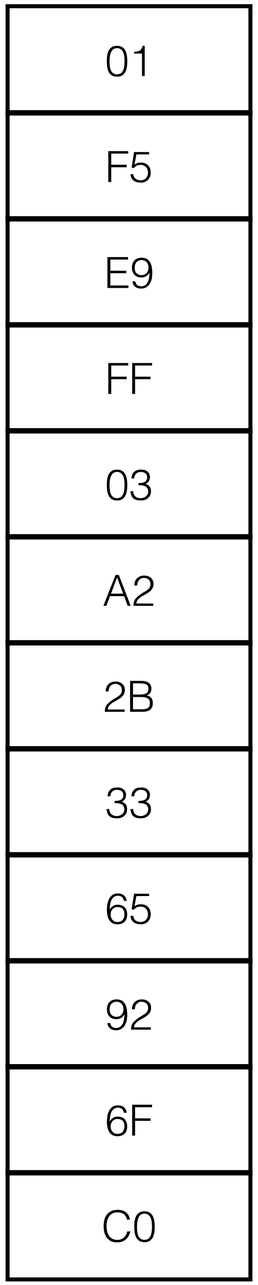
Machine code



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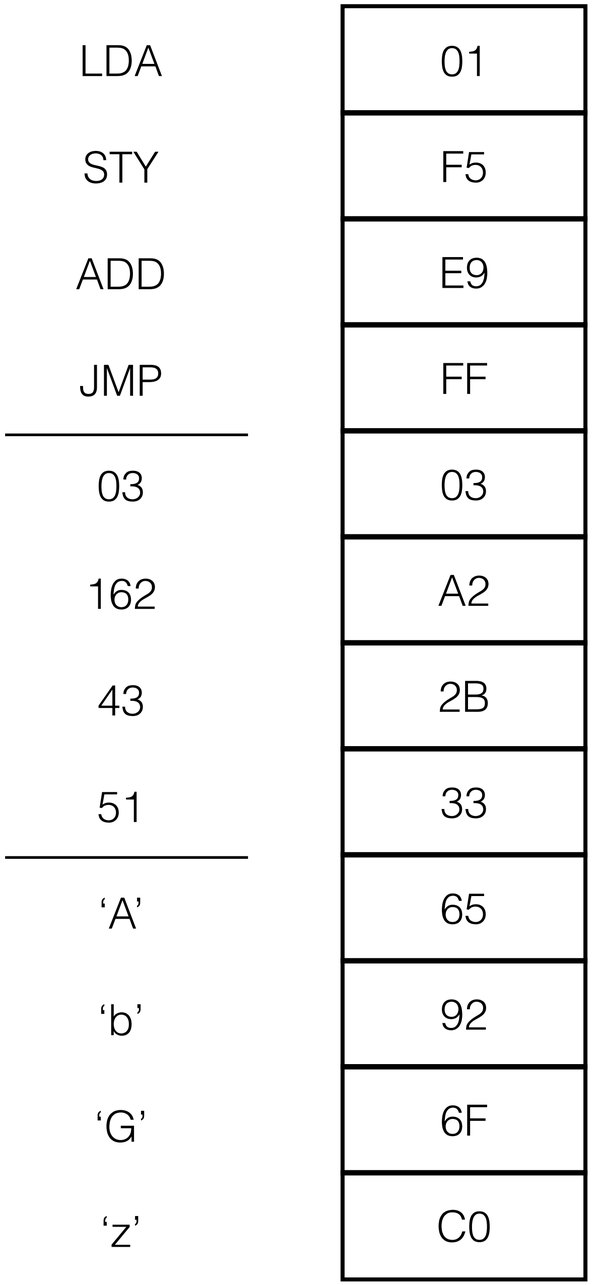
Assembler



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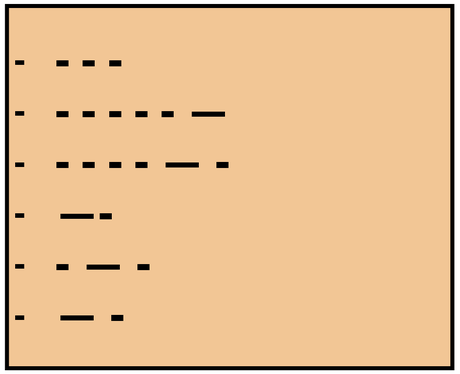
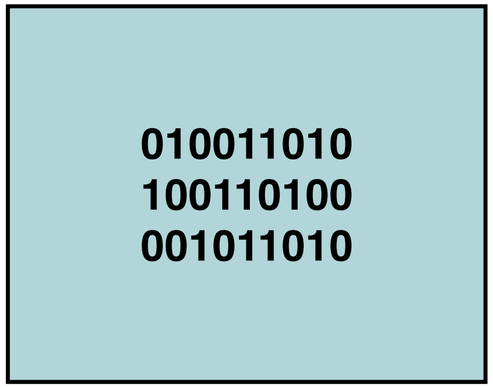
Higher level programming



code



data

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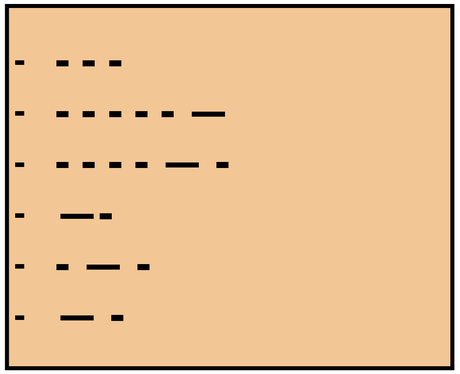
Higher level programming – with types



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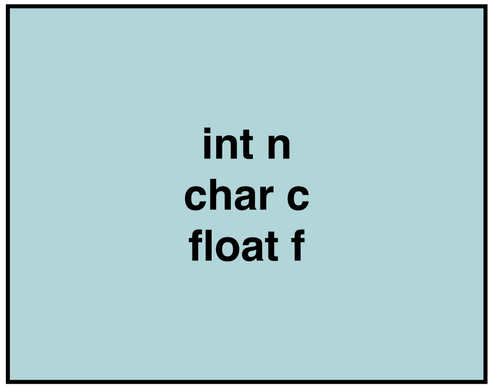

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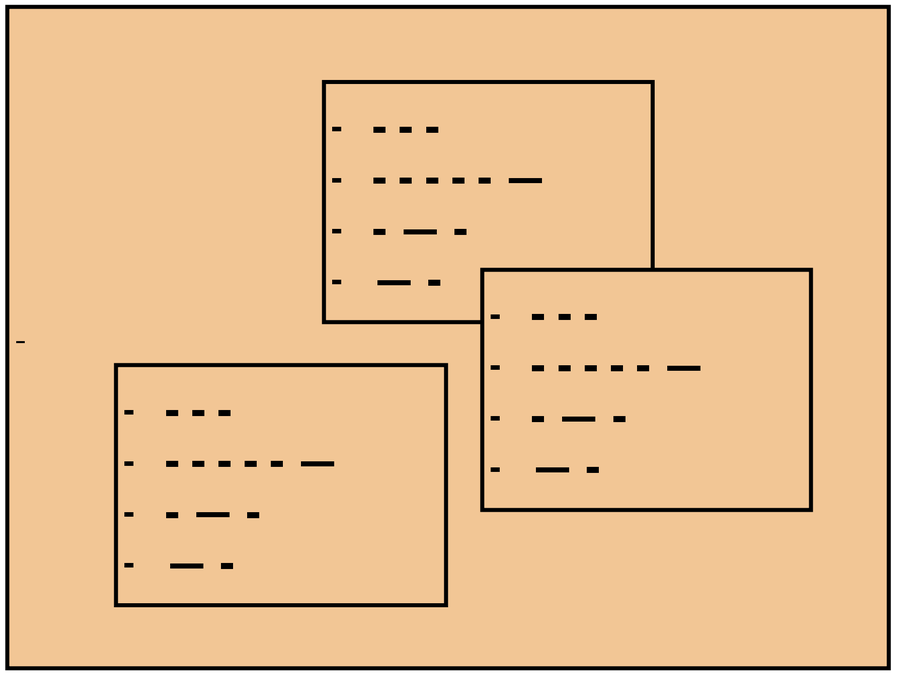
Structured programming



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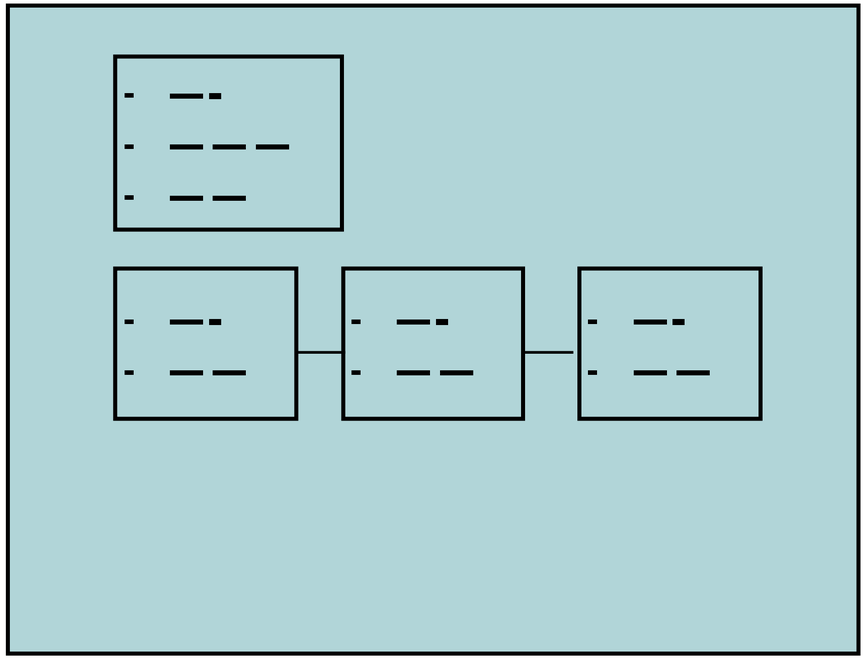

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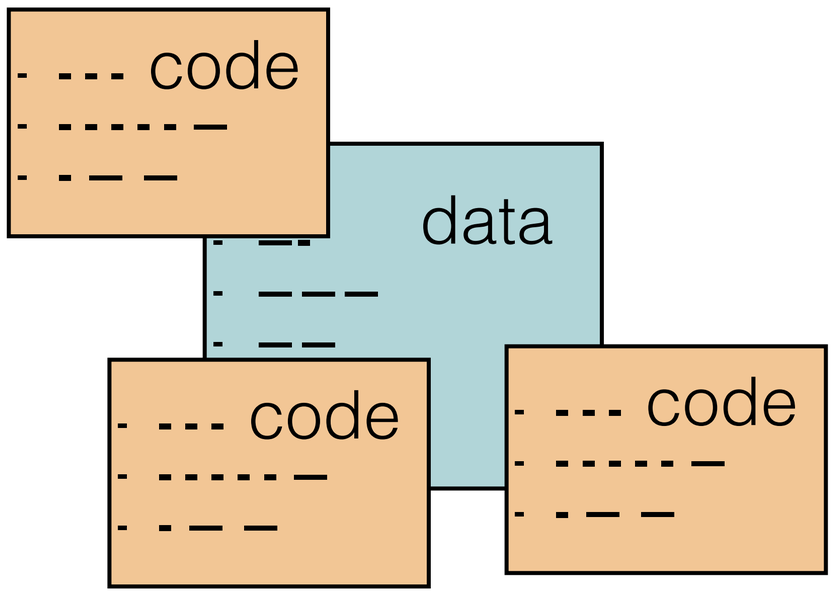
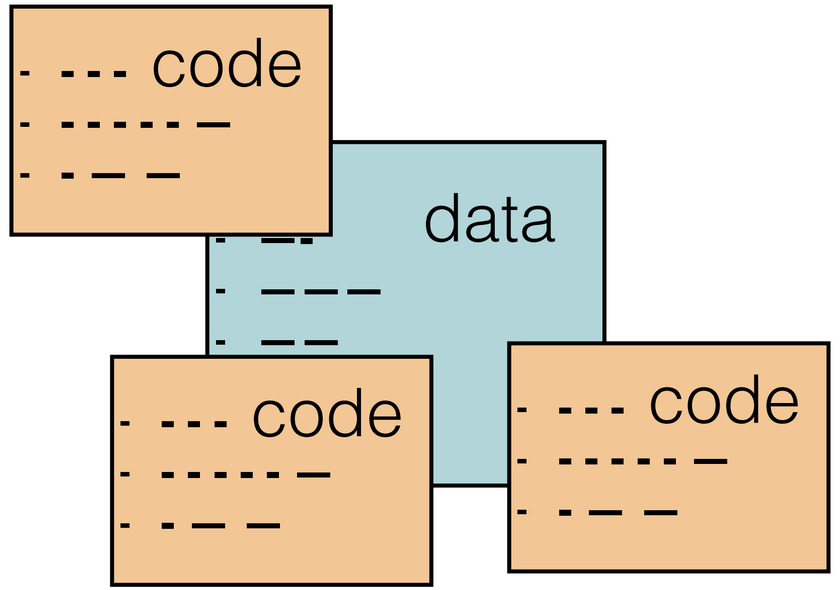
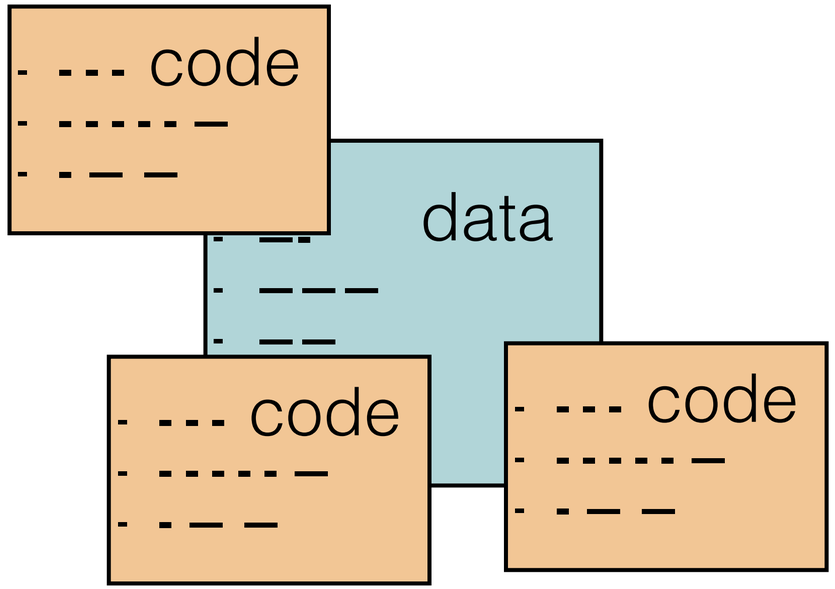
Object-oriented programming







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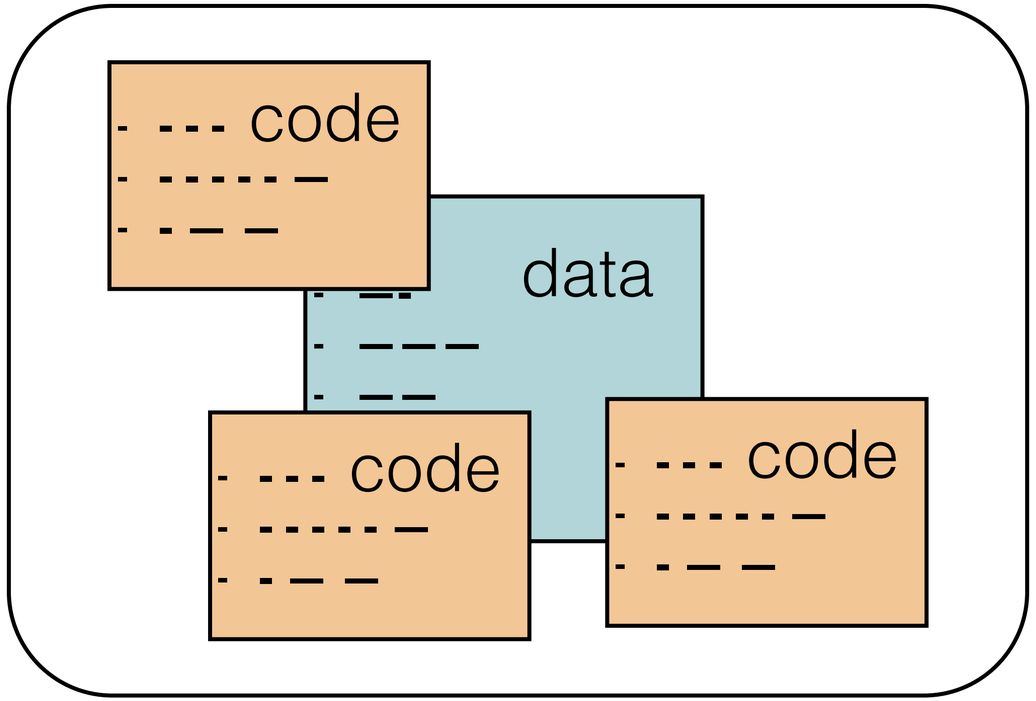
Object-oriented programming



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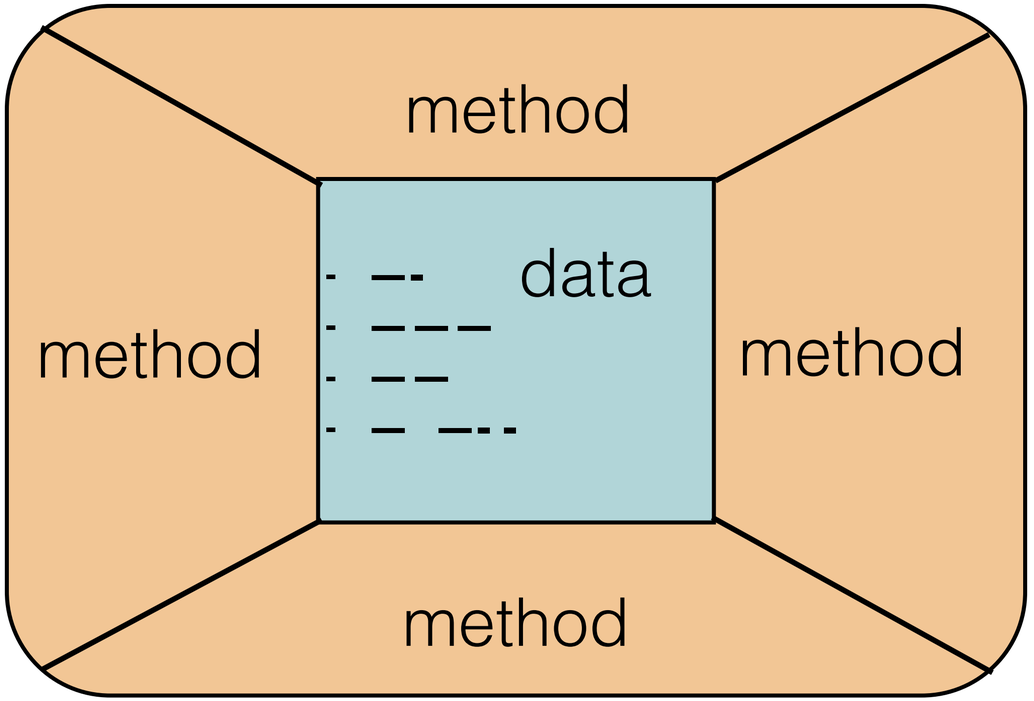
Object-oriented programming



Encapsulation
(Information hiding)

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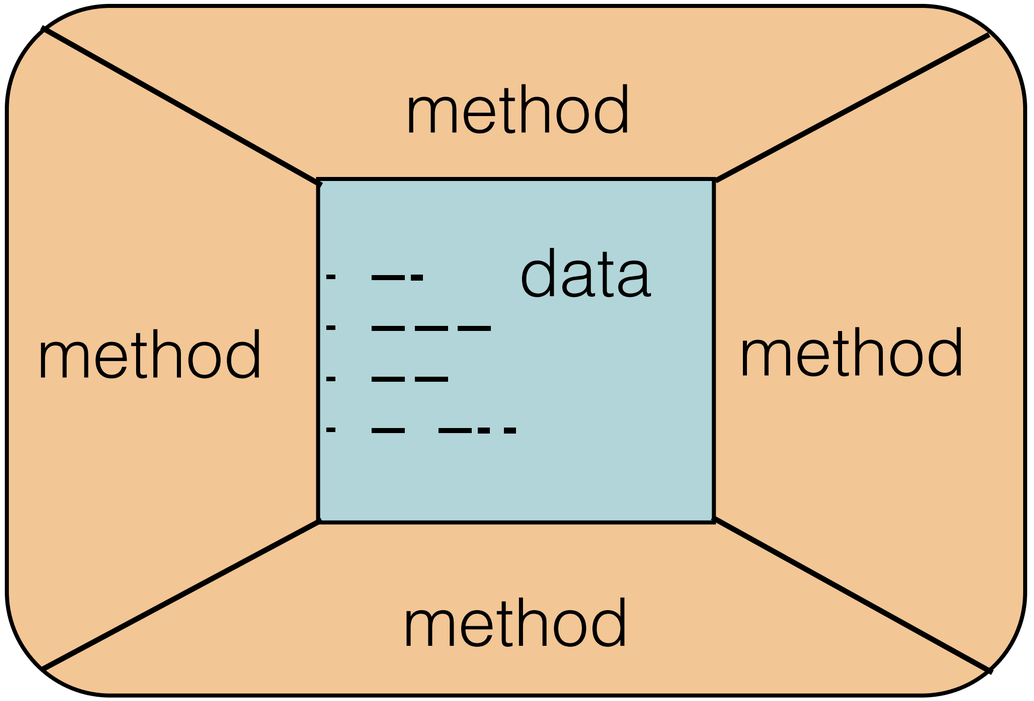
Object-oriented programming



Encapsulation
(Information hiding)

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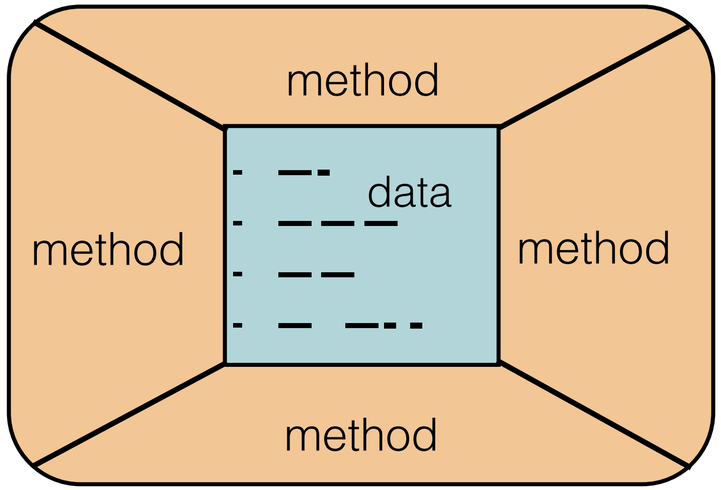
Object-oriented programming



class

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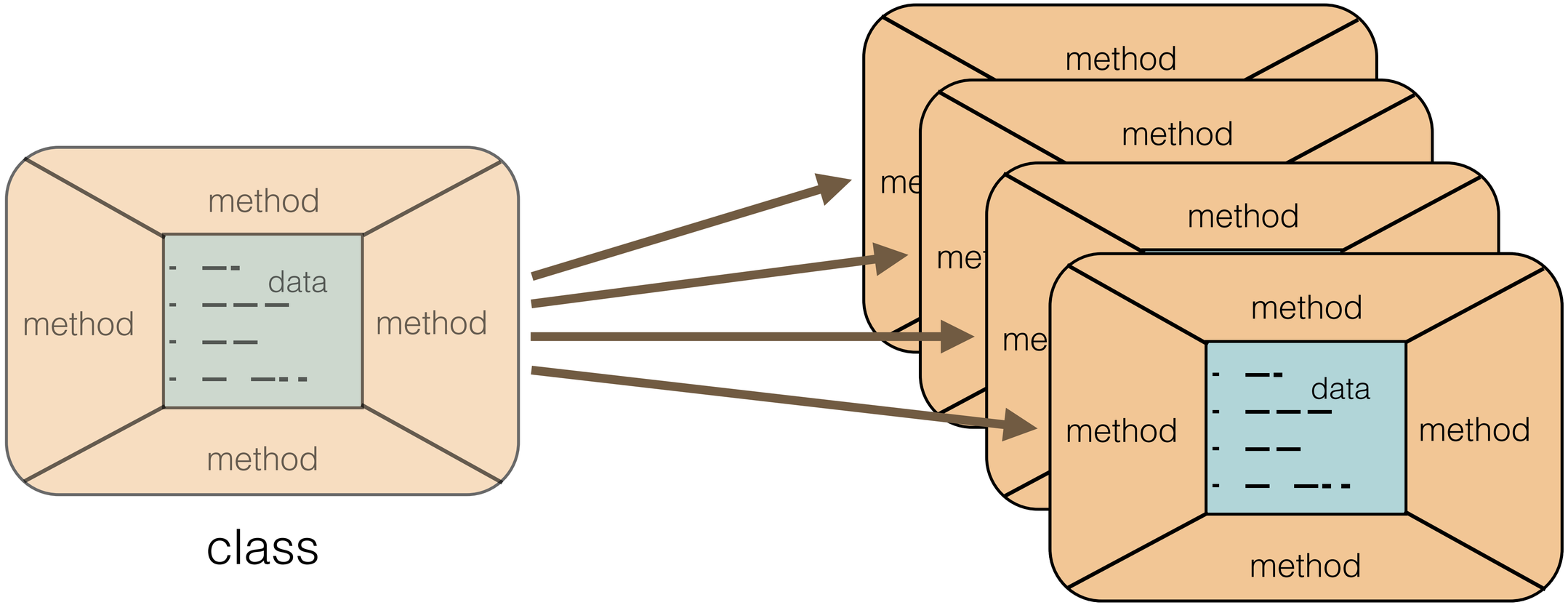
Object-oriented programming



Instantiation

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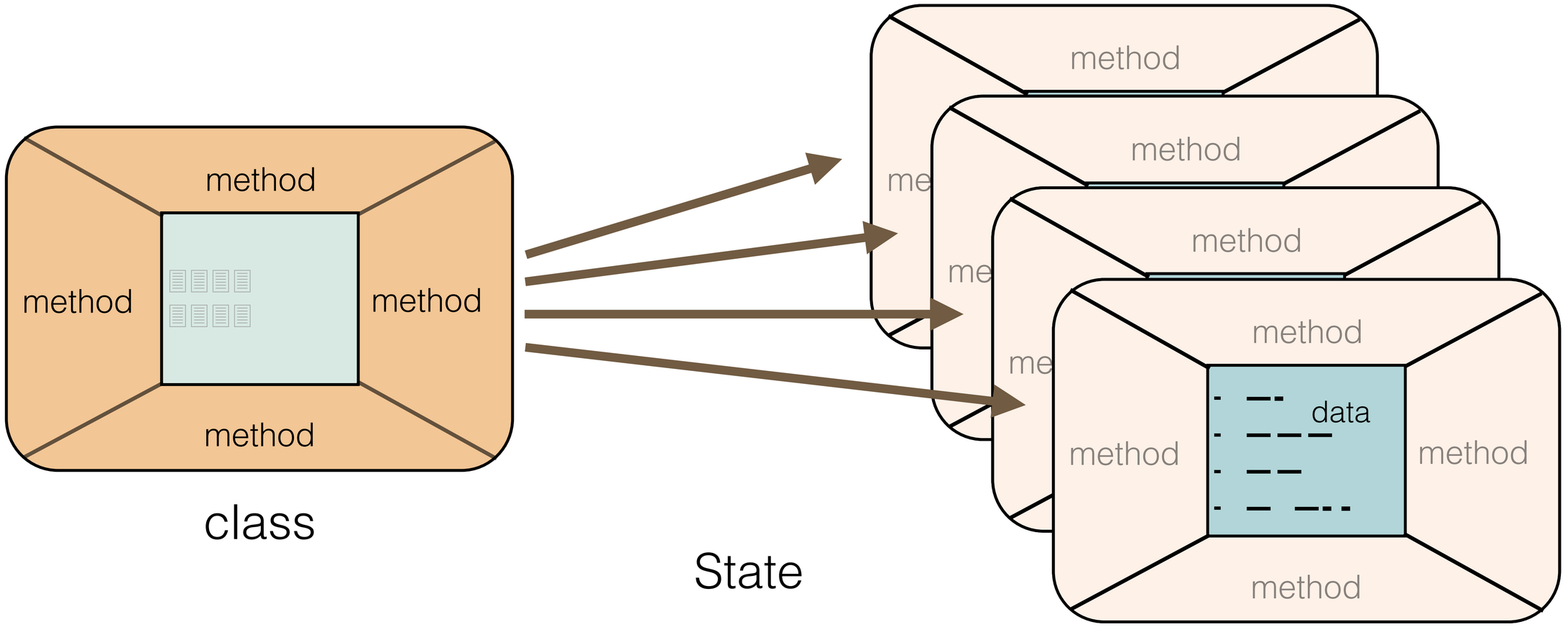
Object-oriented programming



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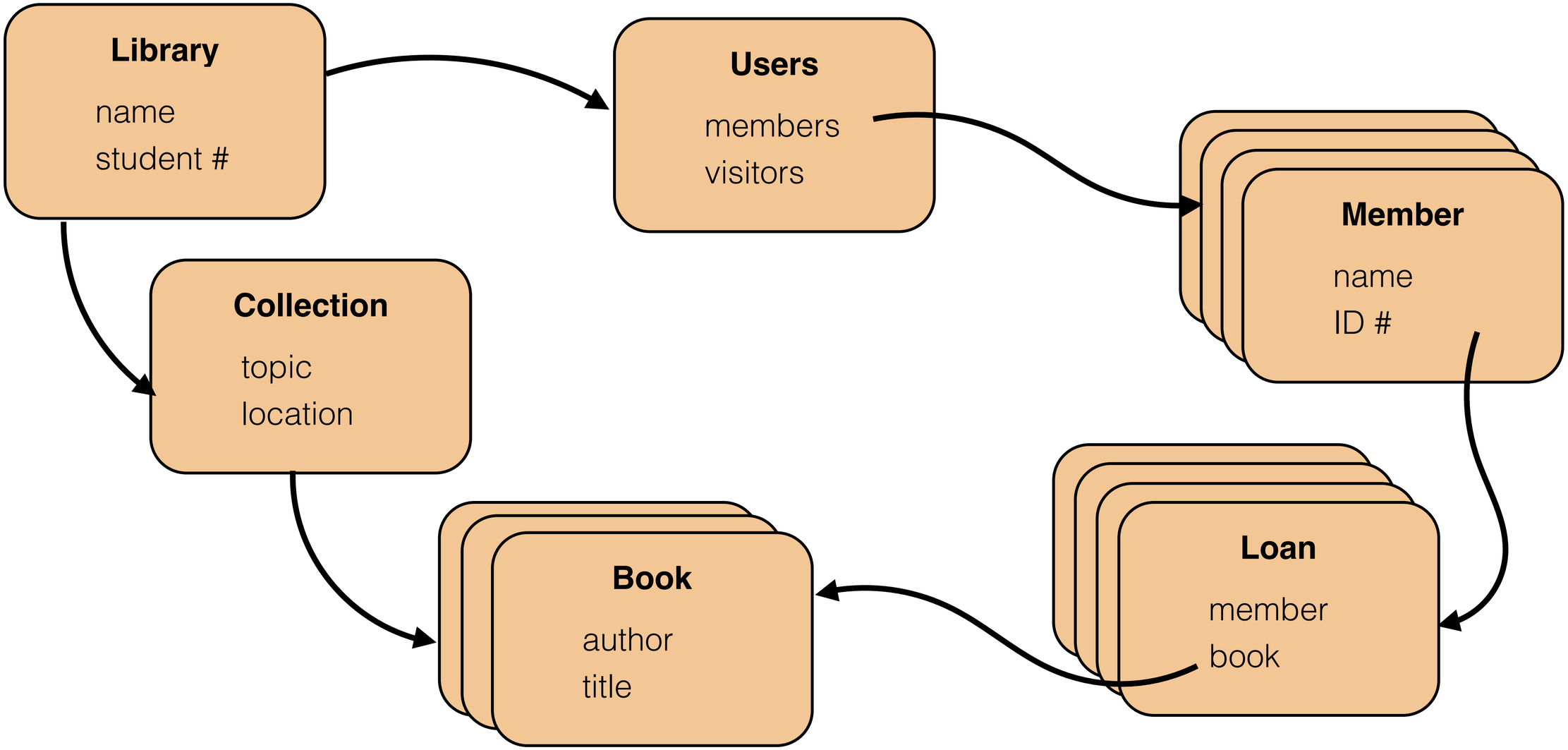
Object-oriented programming



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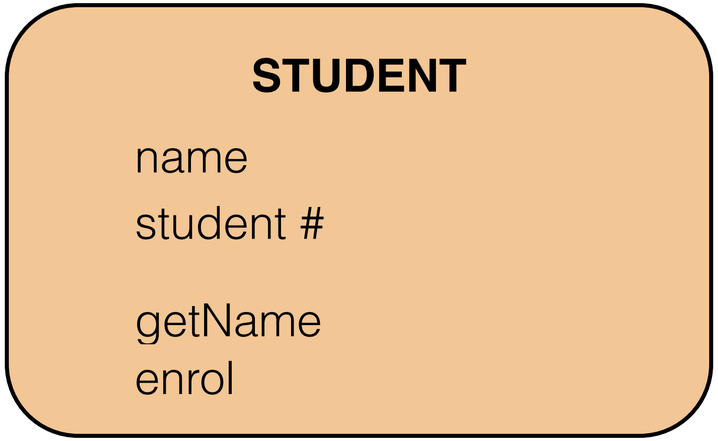

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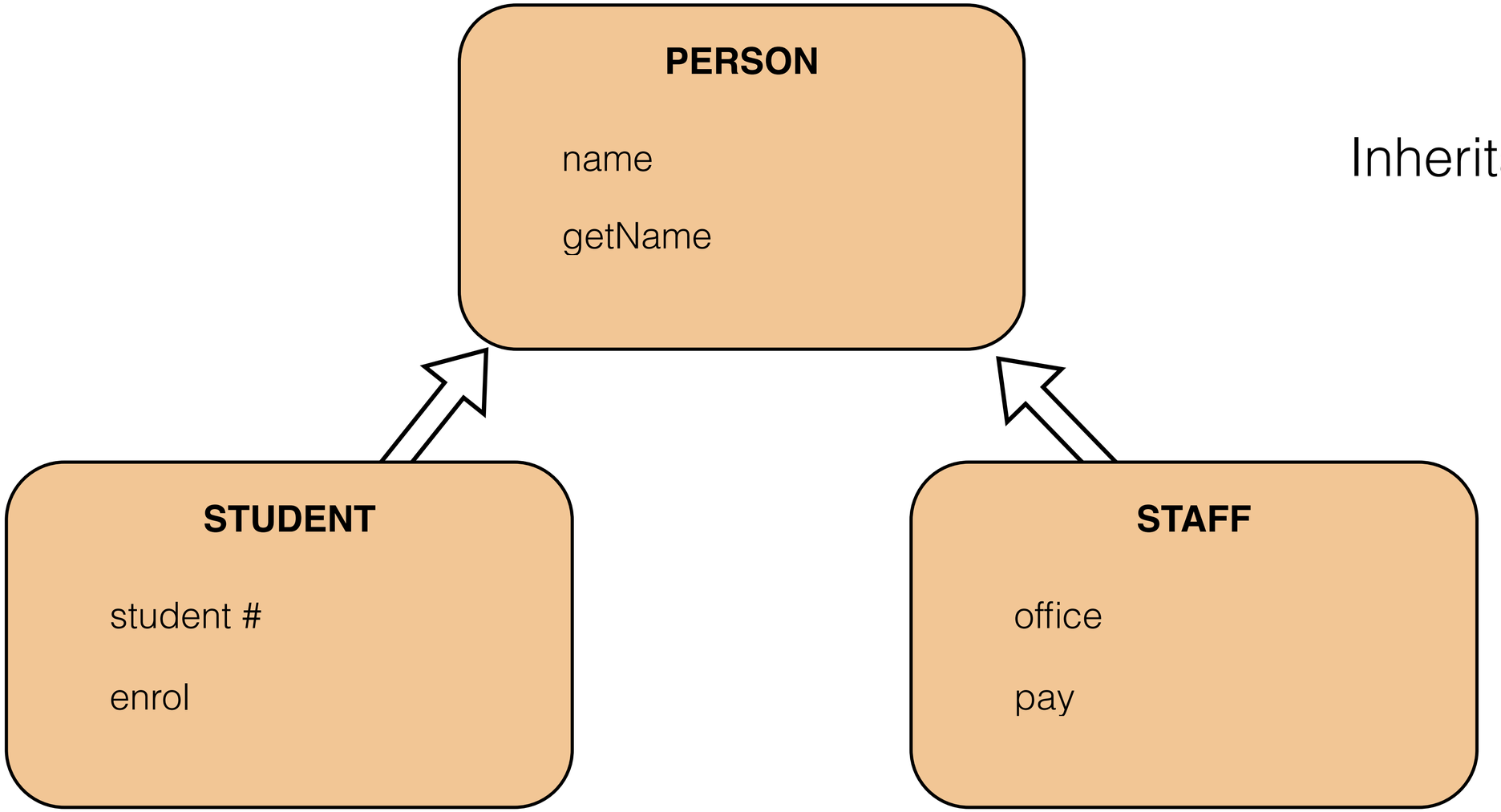

Inheritance

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Modularisation

Readability

Maintainability

Extendability

Correctness

Modelling

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PRO:

Modularisation

Readability

Maintainability

Extendability

Correctness

Modelling

CON:

Boilerplate code

Strictness / inflexibility

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And now: How do I teach this?

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