



The Procedure Abstraction

Part IV: Run-time Structures for OOLs

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What about Object-Oriented Languages?

What is an OOL?

- A language that supports “object-oriented programming”

How does an OOL differ from an ALL? (ALGOL-Like Language)

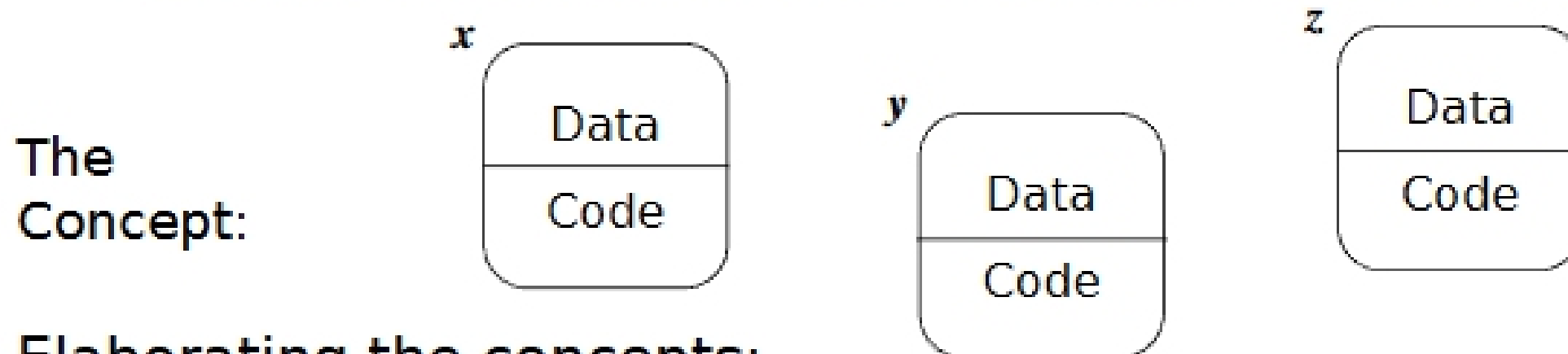
- Data-centric name scopes for values & functions
- Dynamic resolution of names to their implementations

How do we compile OOLs ?

- Need to define what we mean by an OOL
- Term is almost meaningless today — Smalltalk to C++ to Java
- We will focus on Java and C++

Object-Oriented Languages

An object is an abstract data type that encapsulates data, operations and internal state behind a simple, consistent interface.



Elaborating the concepts:

- Each object needs local storage for its attributes
 - Attributes are static (*lifetime of object*)
 - Access is through methods
- Some methods are public, others are private
 - More complex linkage convention; locating them is complex
- Object's internal state leads to complex behavior