

## Introduction (1 of 2)

- Smalltalk was designed by Alan Kay, Dan Ingalls, and Adele Goldberg, at Xerox PARC, in 1972.
  - Smalltalk is one of the early object-oriented (OO) PLs. It is an imperative PL.
  - The first OO PL was Simula-67 (1967).
  - Smalltalk is more OO than Java or C++.
- In Smalltalk, “everything” is an object.

## Introduction (2 of 2)

- Smalltalk has multiple “versions” of syntax, all of which are rather odd. We will use the syntax of GNU Smalltalk.
- Smalltalk is strongly and dynamically typed.
- Smalltalk is statically scoped.
- Smalltalk is higher-order. Blocks are first-class objects.

## Program structure (1 of 2)

- You already know Java. Here's a simple Java example and an analogous Smalltalk example:

`pub/sum/java/Sum.java`

`pub/etc/sum.st`

- Class `Object` has a class (i.e., static) method named `subclass:`, which is called to create a subclass named `Sum`. The subclass body is passed as a parameter to the method.
- A method name ending with a colon takes parameters.
- Square brackets denote a block.
- Vertical bars denote a (dynamically typed) variable.
- A caret denotes return.
- An array has an iterator method named `do:` that takes a block as an argument.

## Program structure (2 of 2)

- However, this is a bad example, because no objects are created.
- Remember, Smalltalk is more OO than Java.
- Here's a not-so-simple Java example and an analogous Smalltalk example:

`pub/etc/Sum.java`

`pub/sum/smalltalk/sum.st`

- Here's an example with multiple arguments and a conditional:

`pub/etc/args.st`