

Number, Autoboxing

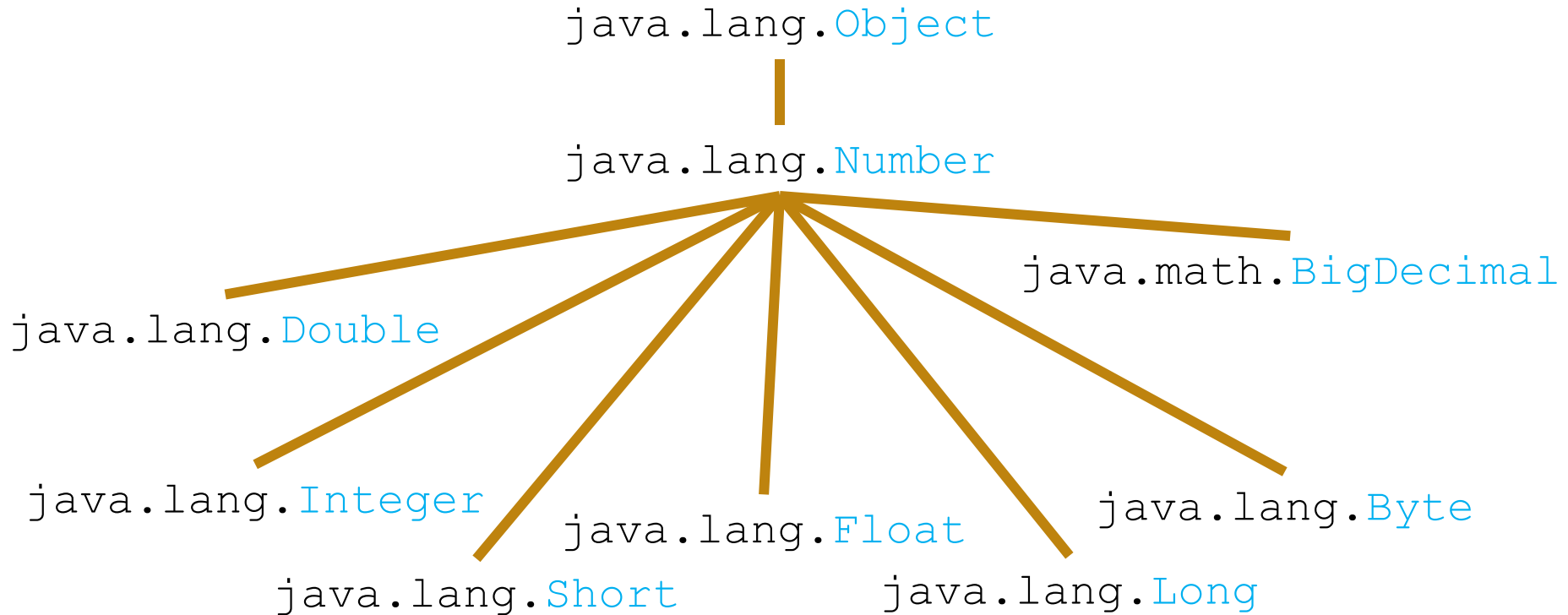
J10

Number, Integer, Short, Float, etc
Autoboxing

Math

The Number Classes

“Boxed” analogues to
primitive number types (J3)



The Number Classes

Number classes have methods (primitives do not)

- `toString()`, `parseInt()`, etc.

Number classes have constants

- `Integer.MIN_VALUE`, `Short.MAX_VALUE`, etc.

Number classes have a space overhead

- Instantiated as true objects
- Inheritance, Subtyping (implement interfaces)

Autoboxing

Classes such as `Integer` and `Character` are boxed versions of the corresponding primitive types (e.g. `int` and `char`).

Java offers automatic support for boxing and unboxing.

- Boxing: `Integer i = 5;`
- Unboxing: `int j = i;`



The `Math` class

The `Math` class contains methods and constants useful for basic mathematics:

- Constants: `Math.PI` and `Math.E`
- Trigonometry: `sin()`, `cos()`, etc.
- Rounding: `abs()`, `ceil()`, `floor()`, etc.
- Comparison functions: `max()`, `min()`
- Exponentials and logs: `exp()`, `log()`, `pow()`, etc.
- Random number generation: `random()`