

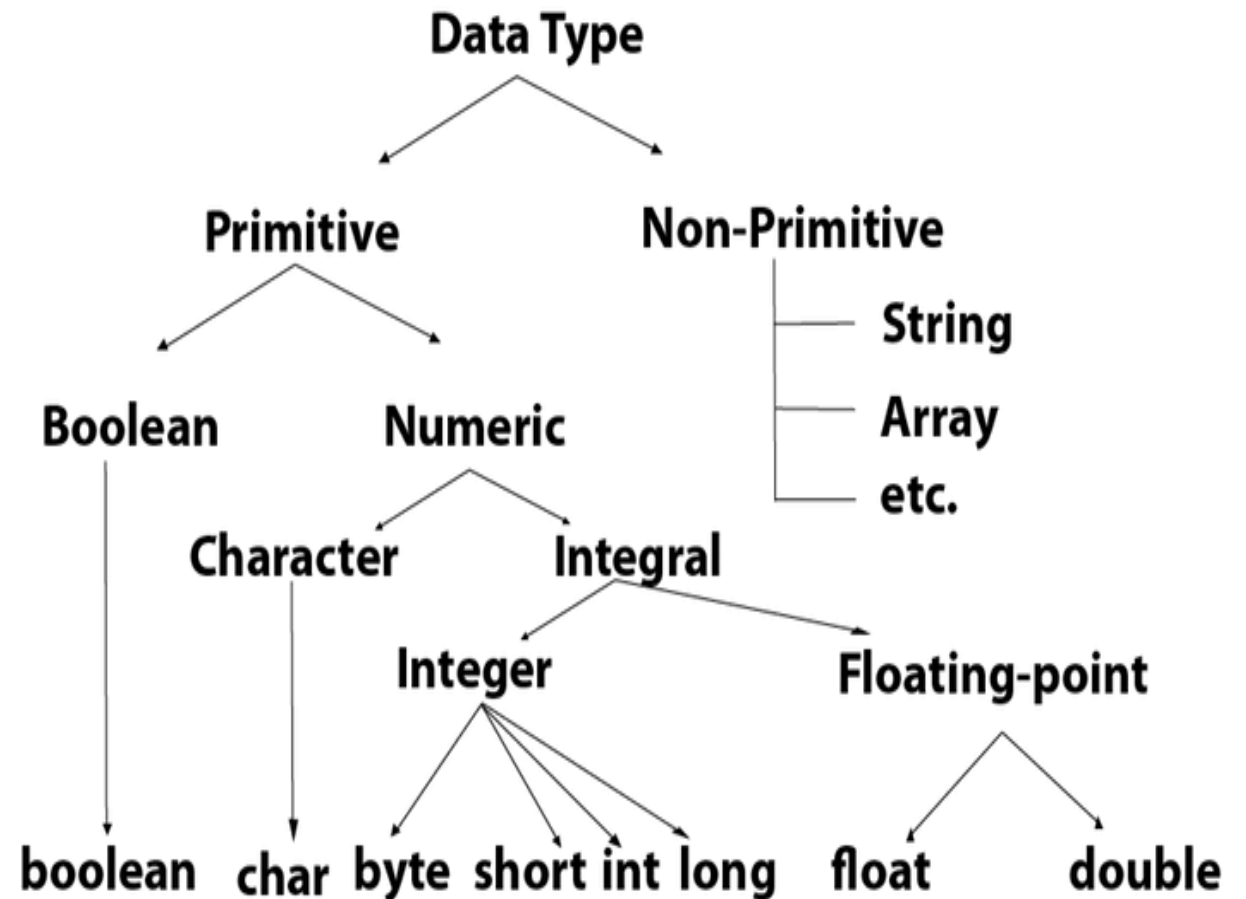
Data types in Java

Why

- ▶ Different sizes and values that can be stored in the variable. Because of that we need to tell JVM to how much space you required to store data
- ▶ In java
You need to define data type when you declare variable.
Once you defined you cannot change it.

Data Types

- ▶ Primitive - hold the values what you assigned
- ▶ Non - Primitive
 - Hold the memory references



Boolean

- ▶ store only two possible values:

true

false

Char

- ▶ Single 16-bit Unicode character

Byte

- ▶ 8-bit signed two's complement integer
- ▶ Minimum value is -128
- ▶ Maximum value is 127
- ▶ Its default value is 0.
- ▶ Saves space because a byte is 4 times smaller than an integer.

Short

- ▶ 16-bit signed two's complement integer

Int

- ▶ It is a 32-bit signed two's complement integer.
- ▶ Minimum value is $2^{31}-1$
- ▶ Maximum value is -2^{31}
- ▶ Its default value is 0.

Long

- ▶ The long data type is a 64-bit two's complement integer.

Float

- ▶ float data type is a single-precision 32-bit

Double

- ▶ float data type is a single-precision 64-bit
- ▶ float and double data types were designed specially for scientific calculations

Reference Data Types

- ▶ Contains a memory address of variable value.
- ▶ A primitive type has always a value, while non-primitive types can be null.
- ▶ Types
 - ▶ String
 - ▶ Array

Strings

- ▶ Contains a collection of characters
- ▶ Many inbuilt methods available.
 - ▶ toLowerCase()
 - ▶ toUpperCase()
 - ▶ Length()
- ▶ Immutable -Not allowed to change

Array

- ▶ used to store multiple values in a single variable
- ▶ cannot re size once created