

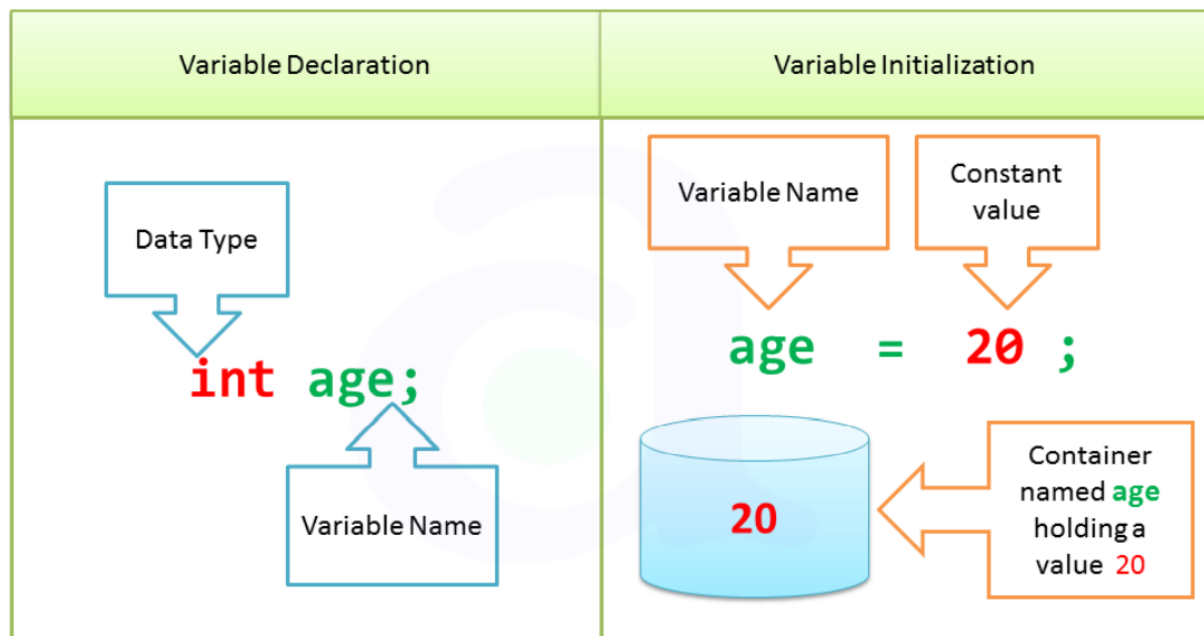
DAY – 6

What is Data Type?

It specifies which type of value a variable has and what type of mathematical, relational or logical operations can be applied.

What is a Variable?

- A variable is a container which holds value.
- Every variable is assigned a data type which designates the type and quantity of value it can hold.
- In order to use a variable in a program you need to perform 2 steps – Variable Declaration – Variable Initialization



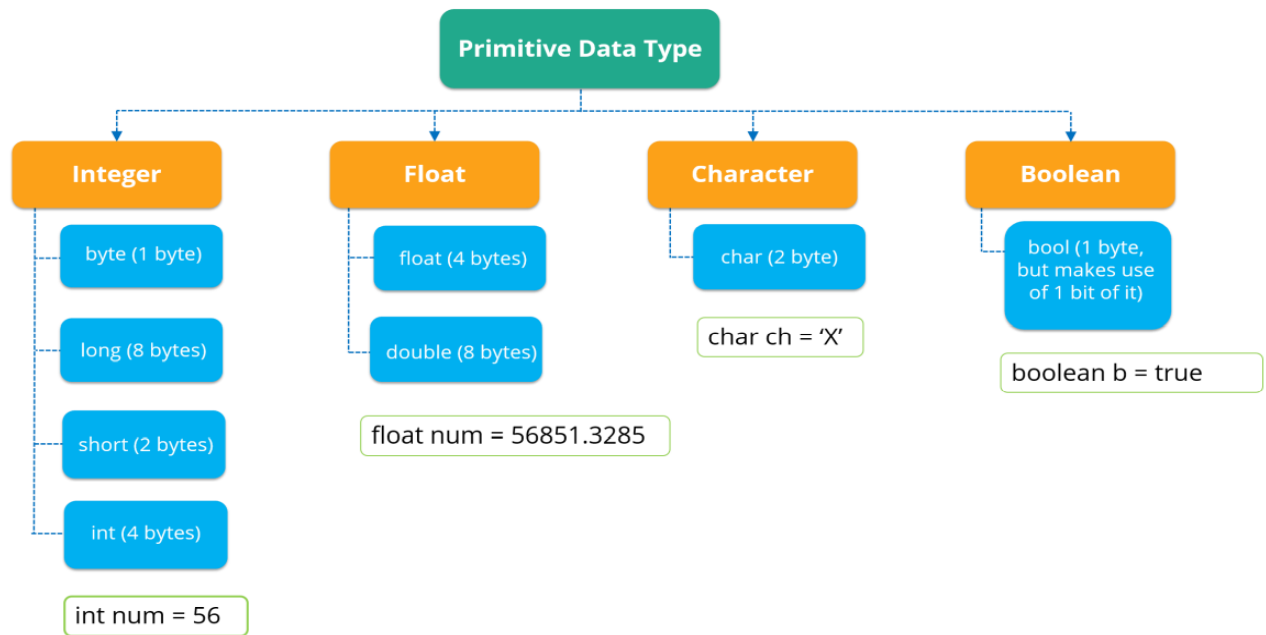
`int` variable Declaration and Initialization

Data Type Types:

- 1) Primitive
- 2) Non- Primitive

Primitive

1. A variable can store only one value.
2. predefined data type.



byte, short, int, long : accepts whole numbers

float, double : accepts decimal numbers

char : accepts any single character / special character / numeric value enclosed with in single quotes ('6').

boolean : true / false

Note :

1 byte = 8 bit

Range of datatypes :

formula :

$$-2^{(n-1)} \text{ to } 2^{(n-1)} - 1$$

$n = \text{bit}$

$n = 8$

$-2^{(8-1)} \text{ to } 2^{(8-1)} - 1$

-128 to 127 -----> byte Range

Datatype Declaration:

Syntax:

`DataType refName = value ;`

Non-Primitive:

1. A variable can store multiple value.

2. It's not a predefined datatype.

eg : String and Array