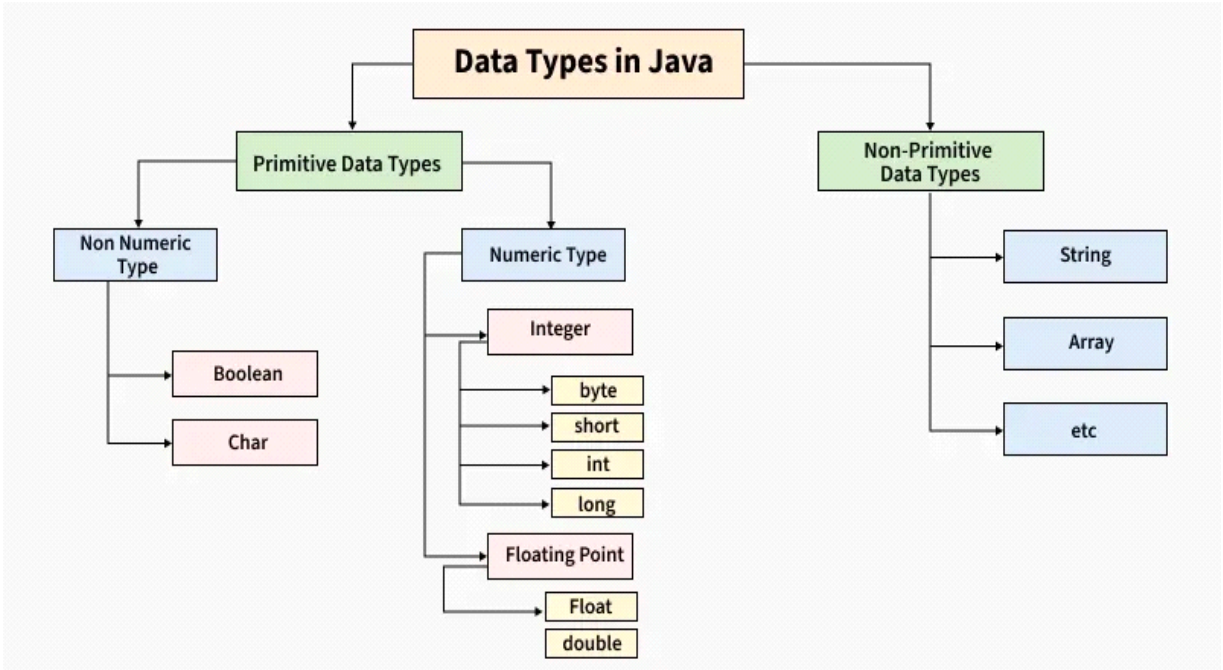

int
variablename = val ;
datatype
Stack memory


int sum = 10
10


Data Types in Java
Primitive Data Types
Non-Primitive Data Types
Non Numeric Type
Numeric Type
Boolean
Char
Integer
byte
short
int
long
Floating Point
Float
double
String
Array
etc

Data Type	Size	Range
byte	**1 byte** (8 bits)	−128 to 127
short	**2 bytes** (16 bits)	−32,768 to 32,767
int	**4 bytes** (32 bits)	-2^{31} to $2^{31}-1$
long	**8 bytes** (64 bits)	-2^{63} to $2^{63}-1$
float	**4 bytes** (32 bits)	~6–7 decimal digits
double	**8 bytes** (64 bits)	~15 decimal digits
char	**2 bytes** (16 bits)	0 to 65,535 (Unicode)
boolean	**1 bit** (logical)	true / false

① Arithmetic Op ②

Operator	Meaning	Example
+	Addition	a + b
-	Subtraction	a - b
*	Multiplication	a * b
/	Division	a / b
%	Modulus	a % b

② Relational op

Operator	Meaning
==	Equal to
!=	Not equal
>	Greater than
<	Less than
>=	Greater than or equal
<=	Less than or equal

③ Logical op

Operator	Meaning
&&	Logical AND
||	Logical OR
!	Logical NOT

④ Assignment op:

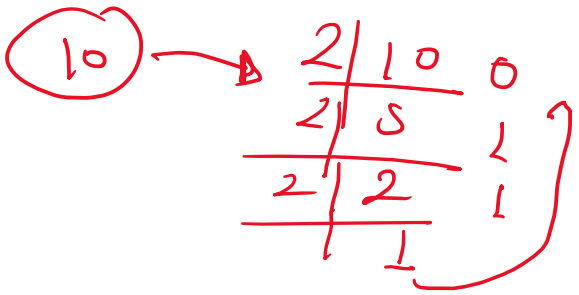
Operator	Example
=	a = 10
+=	a += 5
-=	a -= 3
*=	a *= 2
/=	a /= 2
%=	a %= 2

a += 5 ⇒ a = a + 5

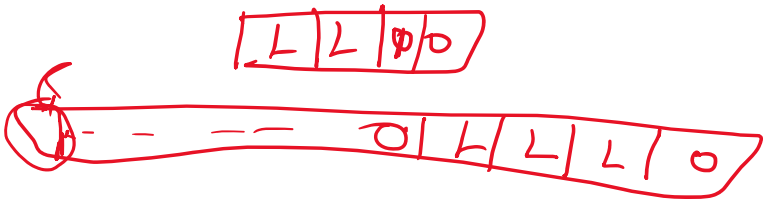
⑤ Unary op

Operator	Meaning
++	Increment
--	Decrement
+	Unary plus
-	Unary minus
!	Logical NOT

Bitwise op:



Operator	Meaning
&	Bitwise AND
|	Bitwise OR
^	Bitwise XOR
~	Bitwise NOT



1 & 1 ⇒ 1

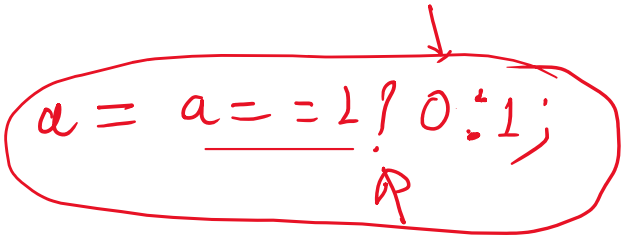
1 & 0 ⇒ 0

1 | 1 → 1

1 | 0 ⇒ 1

Ternary op:

Operator	Meaning
?:	Conditional operator



```
import java.util.Scanner;
Scanner sc = new Scanner(System.in);
```

Sc.nextInt

Data Type	Method to use
byte	sc.nextByte()
short	sc.nextShort()
int	sc.nextInt()
long	sc.nextLong()
float	sc.nextFloat()
double	sc.nextDouble()
char	sc.next().charAt(0)
boolean	sc.nextBoolean()
String (word)	sc.next()

String (line) sc.nextLine()