Class 1.2 - Data types, variables and taking inputs

Typecasting → changing data type from one type to another

int → $[0^8]$

imp

byte → short → int → log → float → double
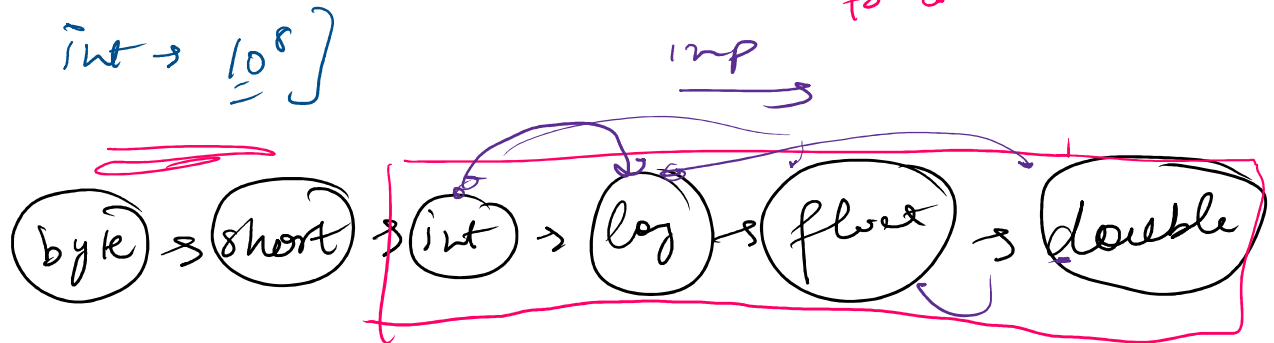
Typecasting in Mathematical operation

int + int → int
int + float → float

$$ e + i + e + i + d + f + f $$

⇒ String + anything = String

" ~ ~ "

→ Operation of adding two Strings is called String concatenation

Basic Maths operation

→ $a + b$

→ $a - b$

→ $a \times b$

a / b → division

$$\frac{10}{4} = 2.5$$

quotient → 3

remainder → 1

$$3\overline{)10}\quad \frac{10}{3}$$
$$\frac{9}{1} \text{ or}$$

→ ① → quotient $\frac{int}{int}$

→ % → modulus operator
└ remainder

→ $16 \% 6$

Assignment operator

$\begin{cases} int\ n = 5; \to \boxed{\dfrac{n}{10}} \\ n = n + 5; \to 10 \\ \quad\quad\quad \to assignment \end{cases}$

double c = 20.0;

$[c = c \times 2;]$

Taking input in Java

[Scanner class]

Scanner (sc) = new Scanner (System.in);

→ scanner kumal

→ Scanner is a part of util library of Java

import java.util.Scanner → only Scanner

import java.util.* → poori util

Taking String Input In Java
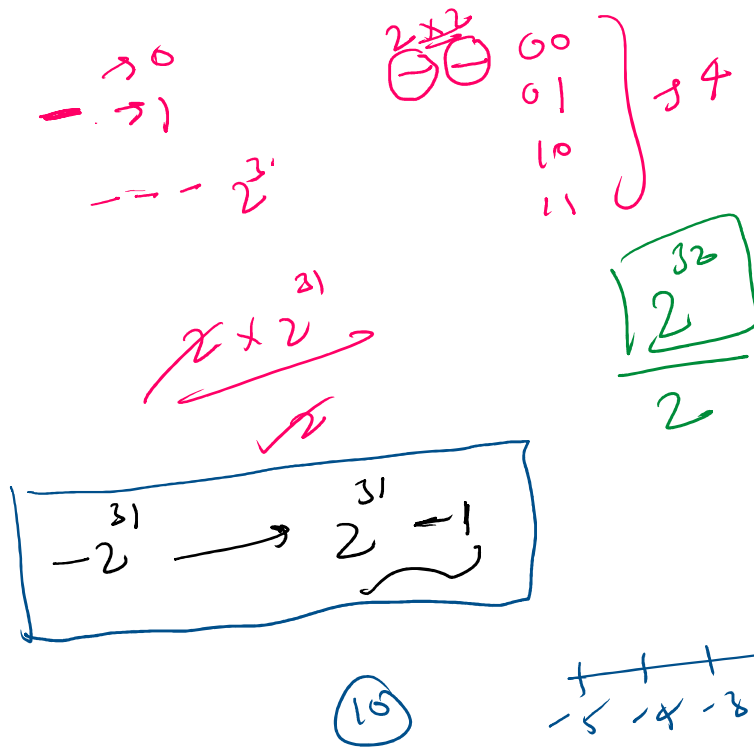
Sc.next() → takes input till it does not get a space

Sc.nextline() → till it doesn't get enter

Show off knowledge

int → 4 Bytes → 32 bits

2 × 60]

-3^0
-3^1

$2 ** 2$ $\begin{matrix} 00 \\ 01 \\ 10 \\ 11 \end{matrix}\Big\} \, 4$

$---2^1$

2^{32}

$x \times 2^{31}$

$\dfrac{2^{32}}{2}$

$-2^{31} \longrightarrow 2^{31} - 1$

(10)

$\underset{-5 \ -4 \ -3 \ -2 \ -1 \ \ 1 \ 2 \ 3 \ 4}{\vdash\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\textcircled{0}\!\!+\!\!+\!\!+\!\!+}$

Escape sequence

$\boxed{\backslash n}$ → special meaning in Java

↳ new line

$\boxed{\backslash t}$ → tab

Format Specifier

System.out.printf ("%.3f" , x)

↓

x upto 3 decimal places

Reletional operators

< greater > less than

Relational ▷

$>$ gre

$>=$ gre

$<$ less than

$<=$ less than equal

+ $5 < 3$ is false

⊕ Relational operators always give boolean results

$7 > 3$ → true

$7 >= 7$ → true

⊕ $==$] equals

$!=$] Not equal

True
$10 != 11$
5

$10 == 11$
false

logical operator

→ &&
– ||
→ !

A	B	A && B	A || B	!A
T	T	T	T	F
T	F	F	T	F
F	T	F	T	T
F	F	F	F	T

true && true || false

$5 \times 3 | 2 + 5 == 10$

$$5 \times 3/2 + 5 \div = 10$$