

Welcome !

Bhargav
- Google

Curriculum

- Intermediate Refresher (1 month)
 - ↳ Programming basics
- Intermediate Module (1 month)
 - ↳ Basic DSA, Problem Solving.
- Advanced (4-5 months)
 - ↳ Complex DSA, implementation.

Refresher

- Revise Java.
- Comfortable with other programming languages.

Curriculum for Refresher Module (Conducted by Bhargav).

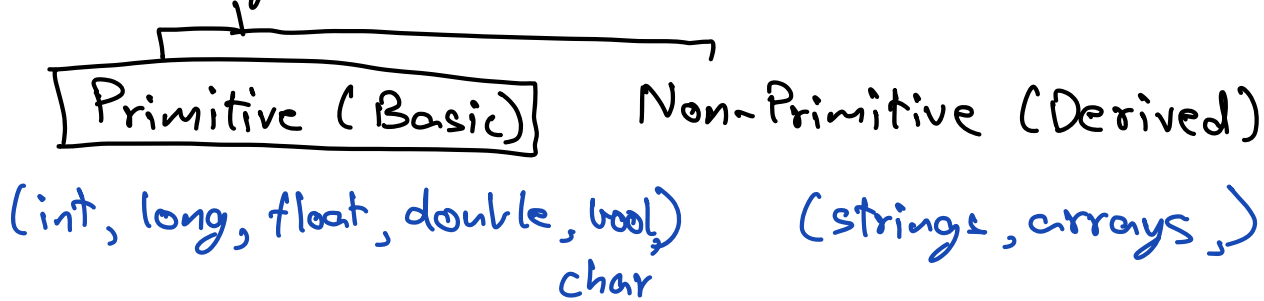
- Intro (Input, Output, Datatypes)
- If-else
- While
- For
- Pattern
- Functions
- 1D Array
- 2D Array
- ArrayList

- Strings.
- Hashmap / Hashsets.

Expectations

- Attendance
- In-class Participation.
- Problem solving Percentage.

Datatypes



Numerical

└ int & long (whole numbers)
 └ float & double (decimals)

1) int (4 Bytes)

(1 Byte = 8 bits)

$$-(2^{31}-1) \leq \text{int} \leq 2^{31}-1$$

$$-10^9 \leq \text{int} \leq 10^9 \text{ (approx.)}$$

2) long (8 bytes)

$$-(2^{63} - 1) \leq \text{long} \leq 2^{63} - 1$$

$$-10^{18} \leq \text{long} \leq 10^{18} \quad (\text{approx.})$$

3) float (4 bytes or 32 bits)
4) double (8 bytes or 64 bits).

Homework

Look up the range.

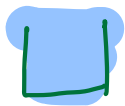
5) char \rightarrow 1 character (8 bits).

"1" "a" "\$"

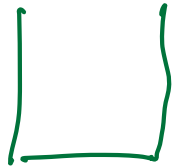
string \rightarrow combination of char

Type casting

Case I



50 mL



100 mL

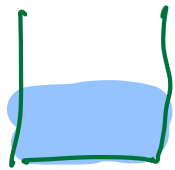
- No loss

ly, int (4 bytes) \rightarrow long (8 bytes) can be done without a loss.

Case II



50 mL



100 mL (< 50 mL occupied).

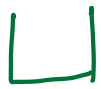
- No loss.

Ily, $\text{long} \rightarrow \text{int}$ will not have loss if number in $\text{long} \leq 4$ bytes.

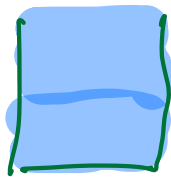
$10^9 \rightarrow \text{long}$
 $\quad \quad \rightarrow \text{int.}$

$\leq 10^9 \rightarrow \text{long} \rightarrow \text{int}$ (No loss)

Case III



50 mL



100 mL

- Loss

Ily, $\text{long} (> 4 \text{ bytes}) \rightarrow \text{int}$ there'll be a loss.

$10^{10} \rightarrow \text{long} \rightarrow \text{int}$ (Garbage value).

