1.

Variables & Datatype

Just like we have some rules that we follow to speak english (the grammer), we have some rule to follow which writing a Java program. The set of these rules is called syntex.

→ Vocurabulary & Grammer in Java.

Variable

A variable is a Container that store a Value. This Value can be changed during the executing the program.

Example:

int   number = 8;   Value it
                        store!

Data Type   Variable
             Name

Rules for Declearing a Variable Name:

We can choose a name which declearing a java variable if the following rule are followed.

1] Must Not begin with a digit ⟶
int 1orr - is invalid!

2] Name is case sensitive ⟶
Tejas & tejas are different.

3] Should Not be a keyword (like void).

4] White space not allowed ⟶ int Tejas Agrawl
is invalid.

5] Can contain alphabetes, $character, _ characters
& digits if other condition are not met.

Data Type

Data Type in java fall under the following category.

1] primitive Data Type

2] Non-primitive Data Type (Derived).

Primitive Data Type:

Java is statically typed →

Variables must be decleared before use!

There are 8 primitive datatype supported by Java.

1] byte →
- Value range from −128 to 127
- Take 1 byte.
- Depeut value is 0.

2] short →
- Value range from $-(2^{16})/2$ to $(2)^{16}/2 - 1$
- Take two byte.
- Depeut value is 0.

3] int →
- Value range from (sec Docs)
- Take 4 byte.
- Depeut value is 0.0f.

4] long →
- Value range from $-(2^{16})/2$ to $(2^{64})/2 - 1$.
- Take 8 byte
- Depeut value is 0.

5] double →
- Value range from (sec docs)
- Take 8 bytes.
- Depult value is 0.0d.

6] char →
- Value range from 0 to 65535 $(2^{16}-1)$.
- Take 2 byte → because it support unicode.
- Depult value is '\u0000'.

7] int →
- The range from $(-2^{32})/2$ to $(2)^{32}/2 - 1$.
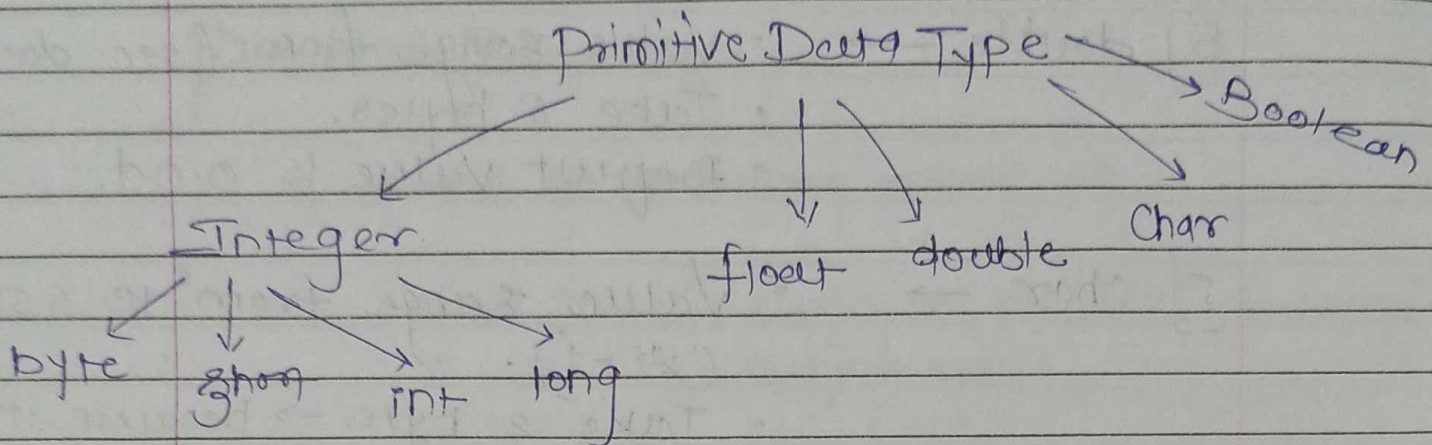- It take 4 byte.
- Depult value is 0.

8] Boolean →
- Value can be true or false.
- Size depends on JVM.
- Depult value is false.

Quick Quiz : Write a program to add three numbers.

How to choose data type for our variables.

Primitive Data Type → Boolean

Char

Integer   float   double

byte short   int   long

In order to choose the data type we
first need to find the type of data we want
to store. After that we need to analyze
the min & max value we might use.

Literals

A Consteunt Value which can be
assigned to the variables is called
as a literal.

101 ——→ Integer Literal
10.1f ——→ float Literal.
10.1 ——→ double Literal
'z' ——→ Character Literals.
true ——→ boolean Literals.
"Tejas" ——→ String Literal.

keywords :

Words which Can be Reserved &
used by the java Compeiler. They
Cannot be used as a Identifier.

Reading Data from the keyboard

In order to Read data from the
keyboard, java has a scanner class.
Scanner class has a lot of methods to Read the
data from the keyboard.

Scanner s = new scanner (System.in)

↳ Read from the
keyboard.

int a = s.nextInt()

↳
Method to Read from the keyboard.

Exercise 1.1.

Write a program to Calculate
percentage of a given student in
CBSE board Exam. His marks from
5 subject must be taken as input
from the keyboard. (marks are out of 100)

1.

Practice Set

1] Write a program to sum the three number in java.

2] Write a program to Calculate CGPA using marks of three student (our of 100).

3] Write a java program which asks the user to enter his/her name & greet them with "Hello <name>, have a good day" text.

4] Write a java program to convert kilometer to miles.

5] Write a Java program to detect whether a number entered by the user is integer or not.