**Datatypes and Variables**

Datatype is nothing but a type of data

In Java we have 2 types

1. primitive datatypes

2. non-primitive datatype

primitive datatypes ==> 8

1. byte

2. short

3. int

4. long

5. float

6. double

7. boolean

8. character

non-primitive datatypes ==> reference type, user type

\_\_\_\_\_\_\_\_variables\_\_\_\_\_\_\_\_

- In order to store the varying data we need a variable

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_In case of primitive datatypes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SYNTAX: datatype variableName assignmentOperator literal;

Ex: int i = 10;

==> int i = 10;

Note: = is the assignment operator. left side assignment.

Note: variable is also an identifier

int i; ==> variable declaration

i = 10; ==> initialization

System.out.println(i); ==> usage

\_\_\_\_JavaConvention\_\_\_\_

class name ==> always starts with a uppercase letter and follows camel case.

Ex: HelloWorld

variable and method name ==> always starts with a lowercase letter and follows camel case.

Ex: thisIsTheVariableIdentifierExample

Ex: thisIsTheMethodNameExample()

Note: Java compiler ignores the white spaces.

we can use the whitespaces for better readiability.

- By default the decimal values are considered as double type.

- By default in java decimal values are considered as double types only not float type.

- to supply the decimal values for float datatype just include either 'f' or 'F' after the decimal value. then compiler will be considering that value as float value.

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int i; ==> declaration

i = 10; ==> first time initialization

System.out.println(i);==> usage

i = 20; ==> re-initialization

System.out.println(i); ==>usage

i = 0; ==> re-initialization

System.out.println(i); ==>usage

i = -100; ==> re-initialization

System.out.println(i); ==>usage

Note: a variable can be re-initialized any no. of times.

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byte < short < int < long < float < double

byte ==> -128 to 127

short ==> -32768 to 32767

int ==> -2147483648 to 2147483647

long ==> -9223372036854775808 to 9223372036854775807

float ==> 1.40239846e-45f to 3.40282347e+38f

double ==> 4.94065645841246544e-324 to 1.79769313486231570e+308