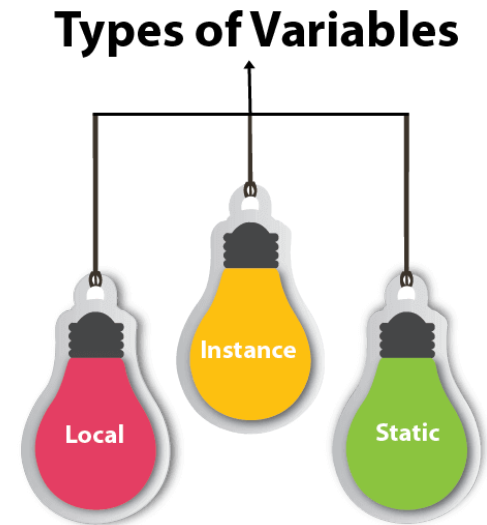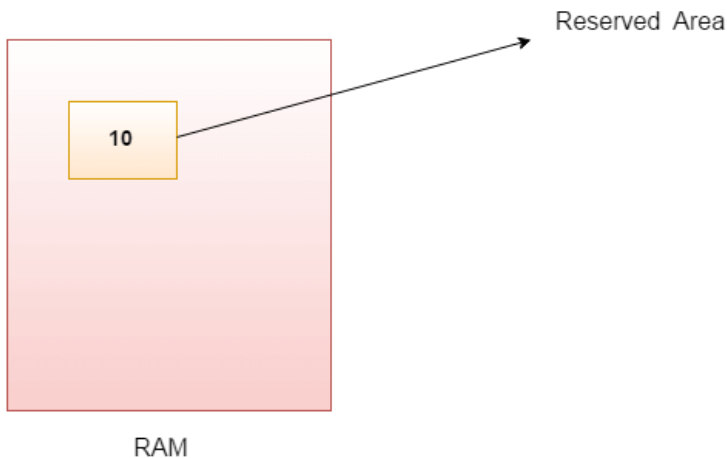# Java Variables

- A variable is a container which holds the value while the Java program is executed. A variable is assigned with a data type.

- Variable is a name of memory location. There are three types of variables in java: local, instance and static.

- Local Variable:-
  A variable declared inside the body of the method is called local variable. You can use this variable only within that method and the other methods in the class aren't even aware that the variable exists.

- Instance Variable:-
  A variable declared inside the class but outside the body of the method, is called an instance variable. It is not declared as static.

- Static Variable:-
  A variable that is declared as static is called a static variable. It cannot be local.
  You can create a single copy of the static variable and share it among all the instances of the class.
  Memory allocation for static variables happens only once when the class is loaded in the memory.

Lets Code it! :)

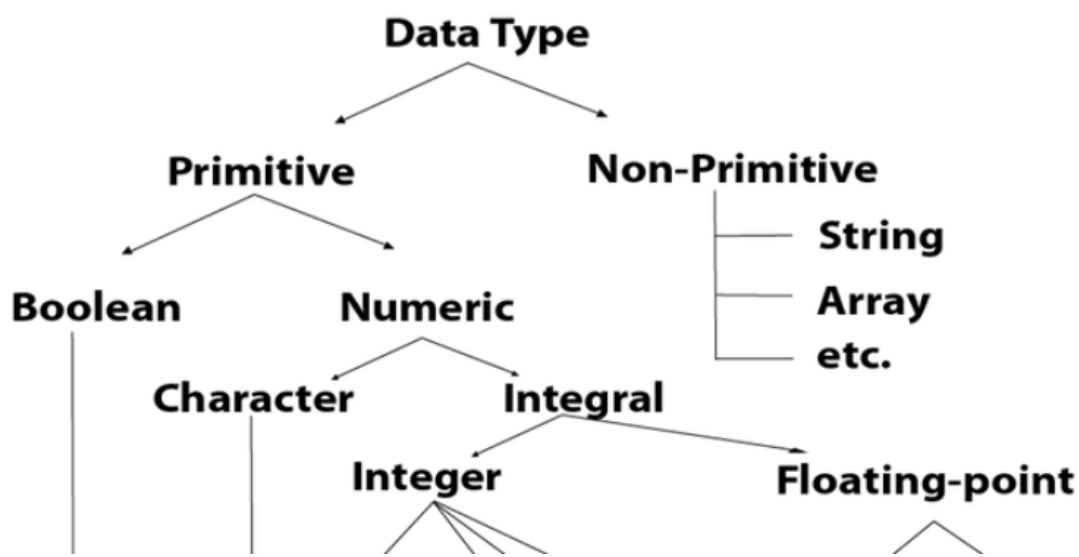**Syntax:**

```
data _type variable_name = value;
```

Rules to Declare a Variable

1. A variable name can consist of Capital letters **A-Z**, lowercase letters **a-z** digits **0-9**, and two special characters such as **_** underscore and **$** dollar sign.
2. The first character must not be a digit.
3. Blank spaces cannot be used in variable names.
4. Java keywords cannot be used as variable names.
5. Variable names are case-sensitive.
6. There is no limit on the length of a variable name but by convention, it should be between 4 to 15 chars.
7. Variable names always should exist on the left-hand side of assignment operators.

Java Datatypes

Data types specify the different sizes and values that can be stored in the variable. There are two types of data types in Java:

1. **Primitive data types:** The primitive data types include boolean, char, byte, short, int, long, float and double.

2. **Non-primitive data types:** The non-primitive data types include Classes, Interfaces, and Arrays.

Data Type

Primitive   **Non-Primitive**

                                    String
Boolean   **Numeric**   Array
                                    etc.

    Character   **Integral**

         Integer   **Floating-point**

boolean   char byte short int long   float   double

Data Type	Default Value	Default size
boolean	false	1 bit
char	'\u0000'	2 byte
byte	0	1 byte
short	0	2 byte
int	0	4 byte
long	0L	8 byte
float	0.0f	4 byte
double	0.0d	8 byte

Lets Code it! :)

Hello World :))

```java
class Simple{
    public static void main(String args[]){
     System.out.println("Hello Java");
    }
}
```