Variable

* Variable is a place holder where you can store data (values, numbers, string etc.)
* There are two types of data ( primitive data and referential data)
* Primitive data is byte, short, integers, long; float and double.
* Referential data is character, string, Boolean etc.
* Three types of variable; local variables. Instance variable and static variable.
* Local variable:
* Declaration- inside the method or inside the block or constructor.

Scope- we can access local variable within the method, or blocks or constructor not possible to access from outside of the method or block or constructor

Memory allocation- memory allocated when method start and destroy as soon as method finish processing.

Store memory: at the stack memory.

Default value: you have to assign a value to local variable, jvm will not assign a default value to it

Modifier: only Final (non-access modifier) can use. **Access modifier cannot use for local variable.**

Instance variable:

Java class has two type of area generally;

Static area : if method declared with static modifier is called static method and inside the static method body is static area

Instance area: if method declared without static modifier is called instance method and inside the method body is instance area also called no static method or no static area.

Declaration- inside the class but outside of the method are called instance variable.

Scope- we can access instance variable inside the class. All methods, or blocks or constructor can access it.

Access: instance area: from instance area (non static method body) you can access directly

Static area: you can access it by creating reference object.

Memory allocation- memory allocated when object is created, memory destroyed when object is destroyed.

Store memory: heap memory

Default value: you don’t have to assign a value to instance variable, jvm will assign a default value to it. For byte, short, int and long default value is 0, for double and float default value is 0.0, for Boolean default value is null, for char default value is single space and for class default value is null.

Modifier: public, private, protected …………….can use.

Problem: instance variable with instance are ( non-static method area no problem. But instance variable but static method area has some problem. have to be very careful..

* static variable:
* declaration- if you declare a variable inside the class but outside of the method with static modifier are called static variable .

Scope- we can access static variable within the class. Any method, constructor or block can access it.

Memory allocation- memory allocated when jvm load .class file and destroy as soon as class finish processing.

Access: it doesn’t matter static or no static area, we can access static variable using

1. Class name. 2. Directly access it, 3. Creating new object. Recommended is using class name.

Store memory: at the non-heap memory.

Default value: you don’t have to assign a value to static variable, jvm will assign a default value to it. For byte, short, int and long default value is 0, for double and float default value is 0.0, for Boolean default value is null, for char default value is single space and for class default value is null.

Difference between instance and static variable: instance variable stored on heap memory and every time you change the value of an object it allocate new memory; that means multipole time memory allocation.

Static variable stored on non-heap memory and every time you change the value of an object ,it delete the old memory and put new value on it that means only one time memory allocation.