Smart Programming : YouTube Channel

An investment in Knowledge pays the best interest….

Variables in Java

=> Variable :

-> Variable is the name of memory location that contains the data

-> The variable value can changed according to programming logic

-> Every variable has its data type

-> Examples :

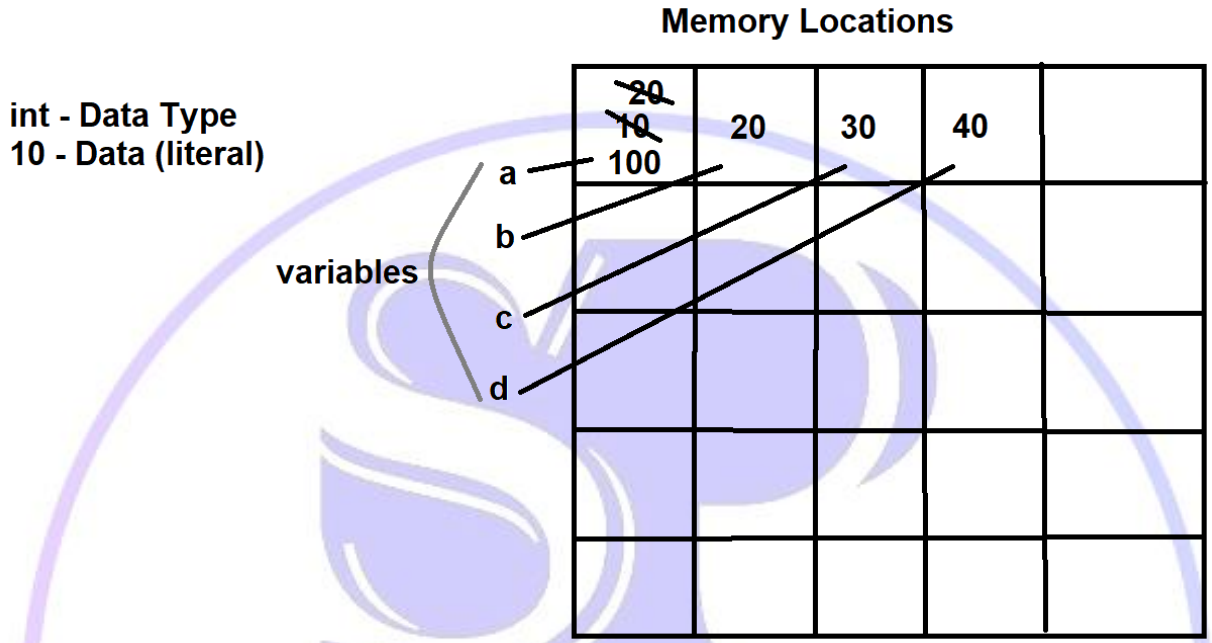
int a=10; (a is the variable)

char c='a'; (c is the variable)

String name="deepak"; (name is the variable)

-> Types of variables :-

1. Local Variables
2. Instance Variables
3. Static Variables



1. LOCAL VARIABLES :-

-> Declaration : Local variables are declared within the body of methods, constructors or blocks

-> Scope : Local variables can be used within the methods or constructors or blocks but not outside them

-> When local variables gets memory allocated : Local variables gets allocated when the methods or

constructors or blocks are executed and get get deleted from memory when that method or block or constructor execution completes

-> Stored Memory Area : Local variables gets memory allocated in "STACK AREA"

-> Default Values : Local variables does not have any default value, if we dont provide the value for local variables and use them, it will provide compile time error saying "variable variable_name might not have been initialized"

-> Access Modifiers : We cannot use access modifiers i.e. public, protected and private with local variables

-> How to access Local Variables :

1. directly

2. INSTANCE VARIABLES :-

-> Declaration : Instance variables are declared within the class but outside the methods or constructors or blocks

-> Scope : Instance variables can be used within the class and every method or block or constructor but not inside the static methods or static blocks

-> When instance variables gets memory allocated : Whenever new object is created, instance variables gets memory allocated and when that object is destroyed instance variables also gets deleted

-> Stored Memory Area : Instance variables are stored in "HEAP AREA"

-> Default Values : Instance variables have default values for ex int - 0; boolean - false; float - 0.0; etc

-> Access Modifiers : We can use access modifiers i.e. public, protected and private with instance variables

-> How to access Instance Variables :

1. directly
2. by using object name

3. STATIC VARIABLES :-

-> Declaration : Static variables are also declared within the class but outside the methods or constructors or blocks and we also use "static" keyword with them

-> Scope : Static variables can be used in every methods or static methods or blocks or static blocks or constructors

-> When static variables gets memory allocated : When we run java program, .class file or byte code gets loaded in JVM and at that time only static variables also gets memory allocated. And when the .class file gets unloaded from JVM static variables gets destroyed from the memory

-> Stored Memory Area : Static variables are stored in "METHOD AREA"

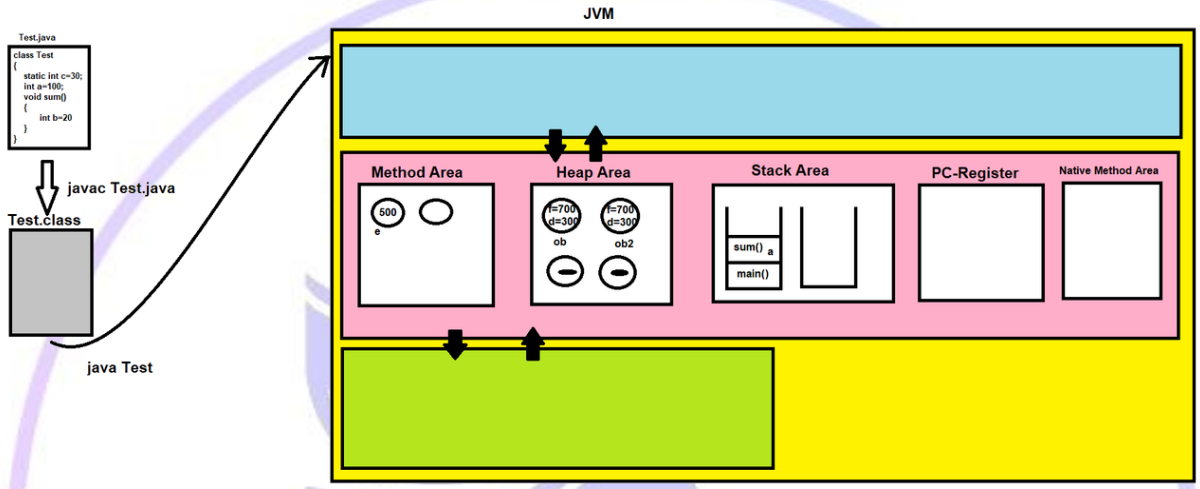
-> Default Values : Static variables have default values for ex int - 0; boolean - false; float - 0.0; etc

-> Access Modifiers : We can use access modifiers i.e. public, protected and private with static variables

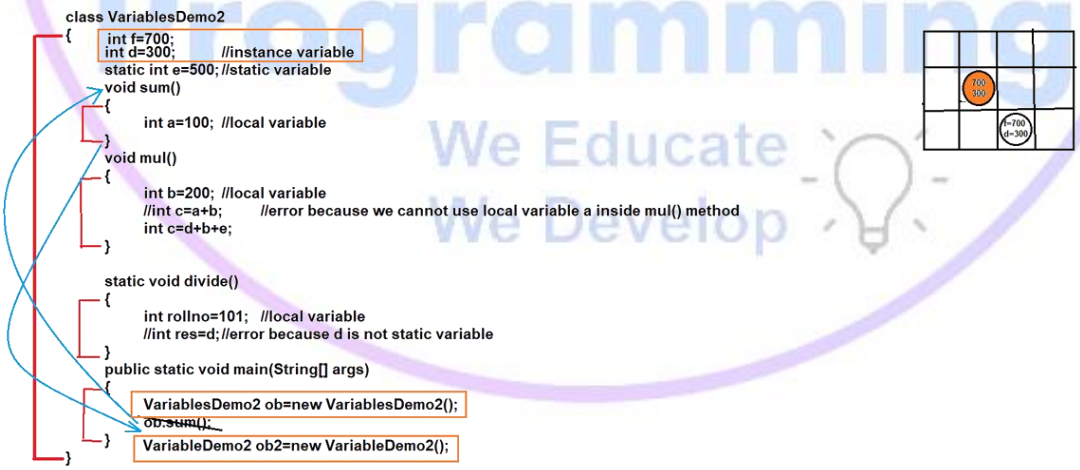
-> How to access Static Variables :

1. directly
2. by object name
3. by class name

Memory Allocation of local, instance & static variables



Program flow



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