

A class is declared by the use of class Keywoods.

General form of a closs:

class classmanne &

type instance-variable!;

type instance-variable?;

type instance-variable?;

type method-names(parameter-list) &

1160dy of method.

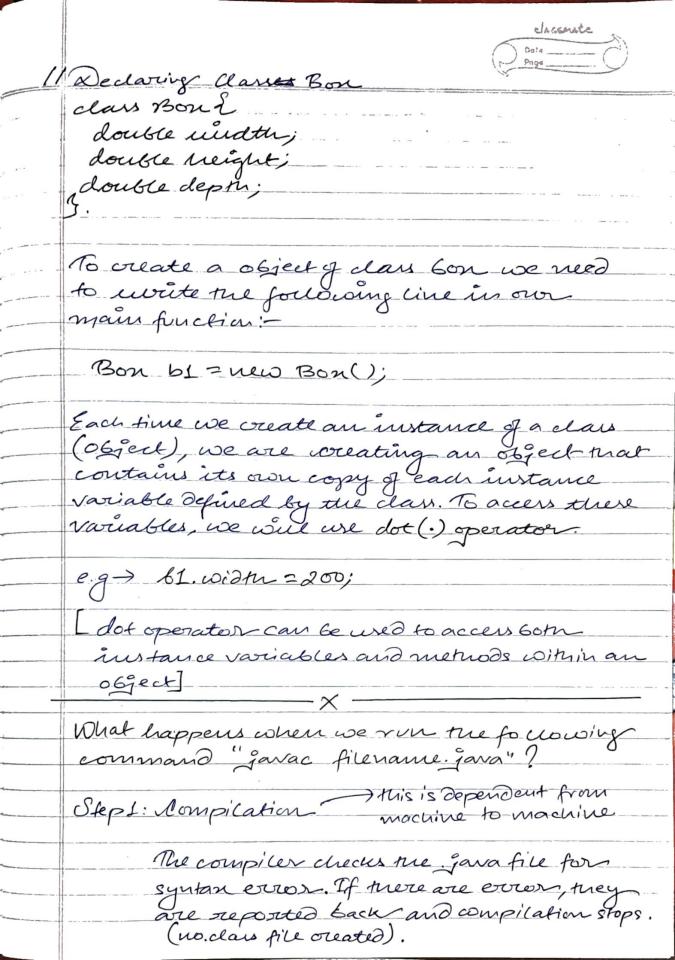
The Data, or variable, defined within a class are called Instance Variable.

Defined

When functions are author in a class Gody

mey are called methods.

Thus, the data for one object is separate and unique from the Data for for another



> Mais why java platform called platform If the syntan is fortiect, the compiler transcates the youran-readable sava codes into 6y te, a machine independent intermediate Skp11: Output. The generated byte code is stored in a. LIF tuere are multiple class in a java file there then multiple class file will the class file through form make sure the class file having the main function. About Byte code and its execution in JVM. Byte code is not ried to any specific madicue or operating system. Byte code is executed by JVM, which is a platform - specific interpreter. Each Os has it own implementation of the JVM Malo translates byte code into machine specific instruction. This allows the same byte code to run is on different platform Ditrout modification. Java programs. do not directly interact with the hardware or Os. Instead, the JVM hardes the interaction, ensuring portability



Difference Gw new reference and object. Ruy Box 61; Box 62 = NEW BOX(); Mis dedtes a new This creates a new object of me class in memory (Born object and reference to the object are exected) - Mis only declares a reference variable (couly reference (NO memory is allocated). -> yemory is allocated -> No object is created for the object and the in memory, this is an unintialized reference constructor of the class is oreated called variable that can be assigned to a Object Cater accessfields or called memors. -> This points to NULL. If we my to use it will Territ in a NULL POINTER EXCEPTION. New operator, The new operator of ramically allocates memory for an object during runtime. classname objectname = new classname(); Specifies me construtor of me doss.

of constructor defines what occurs when the object of a class is created. If no constructors is specified in class body then java will automitically supply a default constructor] (What will hoppen when -Box 61=new Bon (); -Box 62 =61; BI holds the memory address of the new Bon object. The referenced variable 62 is assigned the same memory address as 61. Now BI and b2 point to the same

Bon object in memory. Any changes made

to the object via b1 will be visible to through 62 and vice versa. Note: - Although 61 and 62 Goth refer to me same Object, they are not linked in anyother way A subsequent assignment to b1 will simply unhook be from original object without affectings the object or affecting 62. 7:- Bon 61 = New Book Bon ();

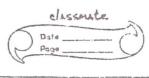
62 still reffering the prev. Object.

Box 62 = 61;

When a method uses an instance variable that is defined by its class, it does directly, without explict reference to an object without use of the dot operator eg:- int vol()?

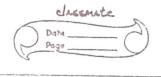
retire vo' height # length # with; Argument and Parameter -> Placeholder/ variable defined value or data passed to a metrod metrod when it is called. variable defined in me mod signature eg:- void greet (String Frame)?. S.O.P("Hello" + name); eg: greet ("Ayou"); Constructors. > why wenced? It can be tedious to Still it would be simpler to initialize all me variables The time of the object first created us aclass each rime an instance is created gravoid setValue()2 V Potential solu Yes, we can call methods to initialize the value of variable. obj1.setValue(); but still we have to asvite a one freking

Java allows objects to initialize menselves when mey are one ated. This initialization is done by Constructors. A constructor initializes an object immediatly upon creation. Creation. It has the same name as the class in which resides and syntactically similar to methods. Once defined, me constructor is automi automatically called when me object is created, before me new operator completes eg: Box()2 widh = Loj height =10; dength = 10; Types of Construction: is Default Constructors: When we do not explicit define a constructor for a class, then java creates a default constructor for the class when using this constructor all default constructor non initialized instance variables will have their default values, which are zero, null and false for numeric types, references types and boolean respectively



(1) Parameterized Coustructures: Bon (Double w, Double h, box double () 2 widh = w; height 2h; 2 Leugh 26; In main fine Box 61 = New Box (20,30,40); (iii) Non Parameterized Constructors: Box ()2 width =10; height = 20; { length = 30; (IV) Copy Constructors: Creates a new object by copying the State of another object of same class. class Bon (Bon 61) E this. coidth = 61.0012th; His. height = b1. height; this length = b1 lengths

The flik Keyword or cowhudor Sometimes a metrico will need to refer to mat object that invoked it. This can Ge used to inside any method/constructor to refer to the aurent object. Justance Variable > TlidivX Why using this? It is illegal in java to declare 400 cocal variables with the same name inside the Same or enclosing scopes. Interestingly we can have local variables, including formal parameters to metuods, which overlaps the names of the class instance variables. However when a cocal variable has the same name as an instance variable, the Local variables vides the instance variable We can resolve this by using different mames but we can so this by using this Key world. Drite a note on Garbage Collection in Java. In C++ dynamically allocated objects must be manually released by use of a "selete" operator.



Java handles deallocation automatically. The fectorique that accomplish this is called gastbase collection.

It works the this!—
When no references to an object exist, that
Object is assumed to be no longer needed, and
the memory occupied by the object can be
reclaimed. There is no need to explicitly
destroy objects. Garbage collection only occurs
sporadically drive the execution of our
program. It will not occur simply because
one or more objects that are no longer
use.