CLASSES AND OBJECTS

CLASS

* All java programs activity occurs within a class
* There are two kind of thing we include in a class
* 1 Data members 2 Methos
* Class= Data + methods
* The classes and objects are core part of java programming language.
* It is the foundation upon which the entire java language is built .
* Beacase the classes defines the nature of an object
* The data and member are defined inside the a class
* Java code is contained in either a class or interface
* Java class provide encapsulation
* It contain both data , code and methods
* When we define a class , we declare its exact form and nature
* Class can contain only variable ,only methods or both methods and variables
* Classes inside class can be defined
* `Variable defined with a static keyword is called class variable
* Variable defined with (non static ) keyword is called instance variable

Objects

An object is created by instantiating a class

To create a new object , java uses the new keyword

**<Classname><ref\_var> = new <Classname>([]);**

Account acc = new Account();

acc has reference address of object type Account()

Whenever JVM encounter new operator , its duty is to create the memory for that object

In heap memory

Accessing Class member

To access variable object.variable

To access method object.methot()

**Constructor**

A constructor initializes an object when it is created

It has same name as its class and is sysntactically similar

to a method ,however it does not have any return type even void

**THIS KEYWORD**

It always poits to an object that is executing the block in which ‘this ’ keyword is present

The process of calling the constructor from other constructor is called as constructor chaining

* The keyword this will not work in non static blocks
* The constructor are considered as non static and hence we can use this inside constructor
* We know that this will always point to the current object .the static variavle and staic methods are not
* Part of object and hence we cant use this keyword any inside block

**STATIC METHOS , VARIABLE AND CLASS**

It is possible to create a member that can be used without

Creating an object

TO CREATE SUCH MEMBER

We need to use th ekeyword *static*

***Static variable***

***Static variable are special type of variable that are not associated with an object ,they are associated with class***

*Static variable will not be created in heap area. It is created in context area or method area*

*Static variable can be accesed directly by the class name or with name only does not need any object*

**Systax**

**Static datatype ref\_var = value;**

***Context area and heap area both are different and independent***

***Static method***

The methods can aslo be declared as static , A static method is associated with a class only

A static methosds can be accessed directly by class name or method name and doesnot need any object

In non-static method static and non static variables can be called But in static method only static variable called from outside

Note:-

The memory space reserved the RAM for the static contents of the

.class file is known as **context of the class**

**Static class**

Class can be declared inside the class as a static class

And it can be used without making an object because it is associated with only class

It is also knowns as nested class