Java: is OOPL (Object Oriented Programming Lang.)
:is an open source (free to installation and free to updation)
:case sensitive

History :

Before Java : "OAK" :1991 : James Goasling: Console app :single user
Renamed "Java" from "OAK" : 1995 : James Goasling : multiuser : console app & Desktop app

WORA: Write Once Run Anywhere

Java Having 3 category
1) J2SE(Core Java) :Java 2 Standard Edition
2) J2EE(Adv.Java) : Java 2 Enterprise Edition
3) Framework : (Hibernate, Spring , SpringBoot)
4) Services : WebServices , MicroServices

Java Features
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1)simple
2)OO
3)interpreter : JVM : bytecode (classfile) to machine code
4)Robust :powerful
5)secure
6)dynamic
7)high performance :10x
8)multithreading :
9)platform independent :
10) portable :
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JDK , JVM , JRE

JDK : Java Development Kit
JRE : Java Runtime Env.
JVM : Java Virtual Machine
JIT : Just In Time

Editor : Notepad, notepad++
IDE : Eclipse, IntellJ, netbeans
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variable : means is nothing but to store some value.
:token or identifire
1) does not start with digit
2) does not allow reserved keyword as a variable name
3) does not allow space between variable name
4) followed with digit after any letter or "_"

Data Type : to reserve the memory for that vaarible or
:which type of data you want to store in a variable that type you mention before the variable
:there are mainly 2 types
1) primitive : fixed size of data types
1.numeric
1.Integeral point: int, long,char,byte,etc..
2.floating point : float , double
2.non numeric
boolean , return
2) non primitive : no any fixed size of data type
class, array, interface etc..

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Type conversion : convert from one data type to another data type mechanism
:there are mainly 2 types
1) implicit :automatically : convert from smaller data type in size convert into Bigger Data type
2) explicit :type casting : convert from Bigger data type in size convert into Smaller Data type

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Condition :

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1) if : if condition is true then your if block will be execute otherwise nothing...

2) if else: if condition is true then your if block will be execute otherwise else block will be executed.

3) nested if

4) else if ladder

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Loop :

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1) entry control loop : 1.while , 2.for

2) exit control loop : 1.dowhile

OOPS: Object Oriented Programming Systems

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1) class : is an collection of data member(variables) and member function(methods, process) with its behaviors

sy:
class classname

{
data member
member function
}

2) object : is a instancs of an class i.e.
:when you create class variables also called..
:its uses new keyword and class constructor to create object
:access whole properties of an class except private
sy:
classname objectname = new constructor();

3) encapsulation : wrapping up of data into single unit i.e. :data hiding
:private your data member and meber function
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Constructor : is an special member function because its same name as a class name.
: does not return any value even void
: can be overloaded
: to initialized value of your data members at object creation time
: may used access modifire except private
: when your class object you create at thtat time to called constructor.
: there are mainly 2 types
1) default : no any argument in constructor
2) parameterized: may have one or more argument in constructor

Scanner Class : to get the value from the user i.e. called
:its derived from java.util package
:it has one argument in scannerclass (System.in)

primitive data type	Scanner methods
int	nextInt()
float	nextFloat()
double	nextDouble()
long	nextLong()
word	next()
line	nextLine()

Array : is an group of elements which can store multiple value/object in a single variable with same data types.
:store = length - 1 (size - 1) size =5 (0 to 4)
:index start from 0
:if you store upon 5th index then occure exception (ArrayIndexOutOfBoundException)
:
:there are minly 2types
1) one dimentional : [] : at a time only one loop will be use
2) two or more dimentional : [][] or [][][] : loop with in loop will be used

3) Jagged Array or Ragged Array : Array with in Array
: each row having different column i.e.
: its same like 2D array but row must be assigned but again column will be empty

1 2 3 4 5
1 2 3
1 2 3 4

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4) inheritance : properties of parent class extends into child class
:properties of superclass extends into subclass
:main purpose is : Reusablity , extendsiblity
:to used "extends" keyword through create inheritance
:always called last child class to create object with access the properties of parent class except private

:there are mainly 5 types
1) single : only one parent having only one child
2) multilevel : single inheritance having one another child
3) hierarchical : one parent having 2 or more child
4) multiple : java does not support directly
5) hybrid: java does not support directly

5) polymorphism : ability to take one name having many forms or different forms
:there are mainly 2 types
1) method overloading(compile time) : the two or more method name should be same in a single class but its behaviors(data types, arguments) are different i.e

2) method overriding(run time) : the whole signature of the method should be same in super class as well as in subclass but its behaviors (body part of the method) are different
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Keywords:
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1) abstract : only essential part should be display rest of the part will be hide : data hiding
1) using with class : we can not create object of that class
:must inherit into your child class

2) using with method : do no specify body part of the method
: your class must be also abstract
:must override your abstract method into your child class

2) final : means constant at value side : call by val
1) using with variable : means constant at value side : call by val
: when you assigned final keyword to variable at that time must initialized value

:after initilizing value can not re assigned or changes during run time or compile time

2) using with class : opp of abstract class
3) using with method : opp of abstract method

3) static
4) interface
5) this
6) super