

To get the current date --- use a library class  
java.util. GregorianCalendar

Relationship between classes ----- Inheritance Relation between classes !!!

At least 2 or more classes are needed to have inheritance relation!!!

YESTERDAY we saw example of HAS A  
Circle Has a REFERENCE of Point  
Book Has a Reference of ARRAY of Strings  
Product HAS A reference of DATE

INHERITANCE defines IS A relation !!!

ONE CLASS is a type of ANOTHER CLASS  
ONE CLASS is a child of ANOTHER CLASS

Parent class	Base Class	<b>SUPER CLASS</b>
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Child class	Derived class	<b>SUB CLASS</b>
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**SUB CLASS** isa type of **SUPER CLASS**

But  
Super class IS NOT A TYPE OF SUBCLASS

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How to ESTABLISH the IS A relation between two classes ?

1. Using **extends** keyword ( relation between two classes )
2. Using **implements** keyword ( relation between class and interface )

Keywords	switch , package, import, static, class, int , final, public , private , return, boolean, this, while, if, for, short, byte , else, break, continue , default , case , float, new, void , true, false , null , long, double , do , char ,
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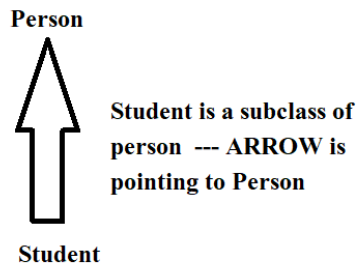
Class Person ===== SUPER CLASS  
Class Student ===== SUB CLASS

Student isa type of Person !!! class Student extends Person

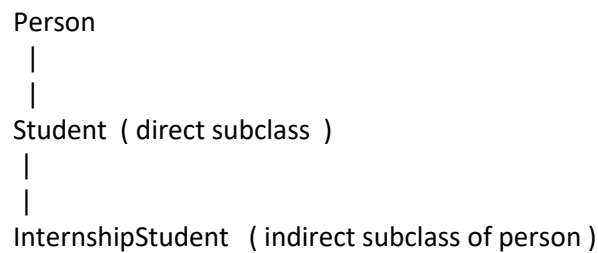
PROPERTIES and METHODS of SUPER CLASS are **inherited** by the SUB CLASS

**Advantage of inheritance - REUSE of Super class's methods and properties**

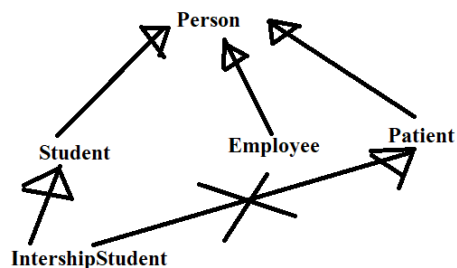
UML = Unified Markup/Modelling Language representation of ISA relation !!!!



Add one more child to Student  
InternshipStudent



1. The super class public methods are available to direct and indirect subclasses
2. When a subclass object is created
  - i. The object of super most class is created first then the next super-most class objectAnd finally the object of subclass is created



3. Many subclasses under one super class
4. One subclass can have further level subclasses
5. One subclass can have only one super class ( SINGLE LINE INHERITANCE )

Java does not support multiple inheritance for "extends " keyword!!!!

Assignment 1 ----

Create a hierarchy

Person (name,dob)

Student isa Person ( rollnumber)

InternshipStudent isa Student ( stipend)

Employee isa Person ( eid , dept, salary )

Patient isa Person ( String diseasesDesc )

Each class will have 2 constructors ( parameter and no-parameter --- please put a sysout as done in class )  
Each class should have getters and setters for their own properties

User1.java

Create Student object with no parameter constructor , set all properties using setter and print them

User 2 .java

Create InternShipStudent object with parameter constructor , print the details

User3.java

Create an array of Patients

Accept values from user

Print the patient name , disease desc

Print all the names of patients who are children --less than18

User4.java

Create Employee object using first no-parameter constructor and setters } print details

Create Employee object using parameter constructor } print details

Draw memory diagrams for each user !!!!

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