**Inheritance**

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\* @author fa20-bse-054

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class Animal {

String name;

public void eat() {

System.out.println("I can eat");

}

}

class Dog extends Animal {

public void display() {

System.out.println("My name is " + name);

}

}

class Main {

public static void main(String[] args) {

Dog labrador = new Dog();

labrador.name = "Tommy";

labrador.display();

labrador.eat();

}

}

**Encapsulation**

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\* @author fa20-bse-054

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class Account {

private long acc\_no;

private String name,email;

private float amount;

public long getAcc\_no() {

return acc\_no;

}

public void setAcc\_no(long acc\_no) {

this.acc\_no = acc\_no;

}

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public String getEmail() {

return email;

}

public void setEmail(String email) {

this.email = email;

}

public float getAmount() {

return amount;

}

public void setAmount(float amount) {

this.amount = amount;

}

}

public class TestEncapsulation {

public static void main(String[] args) {

Account acc=new Account();

acc.setAcc\_no(7560504074545400L);

acc.setName("user");

acc.setEmail("user@gamil.com");

acc.setAmount(500000f);

System.out.println(acc.getAcc\_no()+" "+acc.getName()+" "+acc.getEmail()+" "+acc.getAmount());

}

}

**Abstraction**

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abstract class Shape{

abstract void draw();

}

class Rectangle extends Shape{

void draw(){System.out.println("drawing rectangle");}

}

class Circle1 extends Shape{

void draw(){System.out.println("drawing circle");}

}

class TestAbstraction1{

public static void main(String args[]){

Shape s=new Rectangle();

s.draw();

}

}

**Aggregation**

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\* @author fa20-bse-054

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class Operation{

int square(int n){

return n\*n;

}

}

class Circle{

Operation op;

double pi=3.14;

double area(int radius){

op=new Operation();

int rsquare=op.square(radius);

return pi\*rsquare;

}

public static void main(String args[]){

Circle c=new Circle();

double result=c.area(5);

System.out.println(result);

}

}

**Composition**

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class CarEngine {

public void StartEngine(){

System.out.println(“The car engine has Started.”);

}

public void stopEngine(){

System.out.println(“The car engine has Stopped.”);

}}

class Car {

private String colour;

private int maxi\_Speed;

public void carDetails(){

System.out.println(“Car Colour= “+colour + “; Maximum Speed= ” + maxi\_Speed);

}

public void setColour(String colour) {

this.colour = colour;

}

public void setMaxiSpeed(int maxi\_Speed) {

this.maxi\_Speed = maxi\_Speed;

}}

class Honda extends Car{

public void HondaStart(){

CarEngine Honda\_Engine = new CarEngine();

Honda\_Engine.startEngine();

}}

public class Main {

public static void main(String[] args) {

Honda HondaJazz = new Honda();

HondaJazz.setColour(“Black”);

HondaJazz.setMaxSpeed(160);

HondaJazz.carDetails();

HondaJazz.HondaStart();

}}