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ICM 106 OR23106564

Object Oriented Programming WEEK – 05 ASSIGNMENT

**Question 01**

A is the Super Class of B, C, D, E sub classes means super class of all of another classes.  
C is Super class of D and E sub classes.  
D and E has Knowledge of A and C.  
B has a Knowledge of A.

**Question 02**

Inertance means sub class has all the knowledge of there super class. Good example is how the phones got inherit from previous generations. In the idea of the phone it only has a calling function which has only dial pad specker and microphone which only needed for the build communication. Then people build mobile phones as a next generation move which has wireless connectivity. But, calling mechanism with Dialpad has same principle and receiving calls has same mechanism.   
another good example is smart phones inherit most of there knowledge from pervious generation of phones. calling function is inherit from super class phone. test Messaging and connectivity mechanism inherit primitive generation of mobile phones.

**Question 03**

**Question 04.1**

class Student{

String name;

boolean isPassAl;

boolean isGraduated;

boolean hasScholarship = true;

public void print(){

System.out.println("Name:"+name);

System.out.println("Pass AL?:"+isPassAl);

System.out.println("Graduated?:"+isGraduated);

System.out.println("Scholarship?:"+hasScholarship);

}

}

class GraduateStudent extends Student{

GraduateStudent (){

name="Darshana";

isPassAl= true;

isGraduated = true;

}

}

class UndergraduateStudent extends Student{

UndergraduateStudent(){

name="pubudu";

isPassAl= true;

isGraduated = false;

}

}

class Demo{

public static void main(String args[]){

GraduateStudent s1 =new GraduateStudent();

s1.print();

}

}

**Question 04.2**

class Shape{

double area;

double pi = 22/7;

public void print(){

System.out.println("Area:"+area);

}

}

class Circle extends Shape{

double redius = 3;

Circle (){

area = pi\*redius\*redius;

}

}

class Triangle extends Shape{

double length = 3;

double height = 3;

Triangle(){

area = 0.5\*length\*height;

}

}

class Rectangle extends Shape{

double length = 3;

double height = 3;

Rectangle(){

area = length\*height;

}

}

class Sphere extends Shape{

double redius = 3;

Sphere(){

area = 4\*pi\*redius;

}

}

class Cube extends Shape{

double length = 3;

double width = 3;

double height = 3;

Cube(){

area = length\*width\*height;

}

}

class Demo1{

public static void main(String args[]){

Circle c1 =new Circle();

c1.print();

Triangle t1 =new Triangle();

t1.print();

Rectangle r1 =new Rectangle();

r1.print();

Sphere s1 =new Sphere();

s1.print();

Cube b1 =new Cube();

b1.print();

}

}

**Question 04.3**

class Loan{

double intrest;

public void print(){

System.out.println("Intrest:"+intrest);

}

}

class CarLoan extends Loan{

CarLoan (){

intrest = 15;

}

}

class HomeImprovementLoan extends Loan{

HomeImprovementLoan(){

intrest = 12.5;

}

}

class MortgageLoan extends Loan{

MortgageLoan(){

intrest = 14.5;

}

}

class Demo2{

public static void main(String args[]){

CarLoan c1 =new CarLoan();

c1.print();

HomeImprovementLoan t1 =new HomeImprovementLoan();

t1.print();

MortgageLoan r1 =new MortgageLoan();

r1.print();

}

}

**Question 04.4**

class Employee{

}

class EmployeeFaculty extends Employee{

}

class Staff extends Employee{

}

class Demo3{

public static void main(String args[]){

}

}

**Question 04.5**

class BankAccount{

double intrest;

public void print(){

System.out.println("Intrest: "+intrest);

}

}

class CheckingAccount extends BankAccount{

CheckingAccount(){

intrest = 10.5;

}

}

class SavingsAccount extends BankAccount{

SavingsAccount(){

intrest = 8.5;

}

}

class Demo4{

public static void main(String args[]){

BankAccount b1 = new CheckingAccount();

b1.print();

BankAccount c1 = new CheckingAccount();

c1.print();

}

}

**Question 5**

class Shape{

String name;

String type;

public void print(){

System.out.println("Shape Name:"+name);

System.out.println("Shape Type:"+type);

System.out.println();

}

}

class TwoDimentionalShape extends Shape{

TwoDimentionalShape (){

type = "Two Dimentional Shape";

}

}

class Circle extends TwoDimentionalShape{

Circle (){

name = "Circle";

}

}

class Squre extends TwoDimentionalShape{

Squre (){

name = "Squre";

}

}

class Triangle extends TwoDimentionalShape{

Triangle (){

name = "Triangle";

}

}

class ThreeDimentionalShape extends Shape{

ThreeDimentionalShape(){

type = "Three Dimentional Shape";

}

}

class Sphere extends ThreeDimentionalShape{

Sphere(){

name = "Sphere";

}

}

class Cube extends ThreeDimentionalShape{

Cube(){

name = "Cube";

}

}

class Tetrahedron extends ThreeDimentionalShape{

Tetrahedron(){

name = "Tetrahedron";

}

}

class Demo{

public static void main(String args[]){

Shape c1 =new Circle();

c1.print();

Shape d1 =new Squre();

d1.print();

Shape e1 =new Triangle();

e1.print();

Shape f1 =new Sphere();

f1.print();

Shape g1 =new Cube();

g1.print();

Shape h1 =new Tetrahedron();

h1.print();

}

}