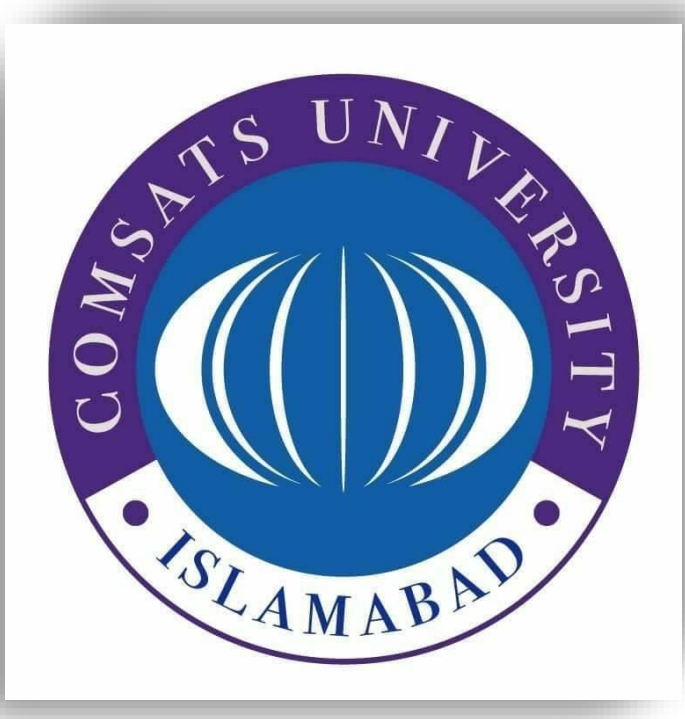

Object Oriented Programming

Assignment # 03

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Question 1 :

```
class Package{
    protected String senderName;
    protected String senderAdress;
    protected String recipientName;
    protected String recipientAddress;
    protected double weight;
    protected double costPerOunce;


    public Package(){

    }

    public Package(String senderName, String senderAdress,
String recipientName, String recipientAddress, double
weight, double costPerOunce) {
        this.senderName = senderName;
        this.senderAdress = senderAdress;
        this.recipientName = recipientName;
        this.recipientAddress = recipientAddress;
        this.weight = weight;
        this.costPerOunce = costPerOunce;
    }

    public String getSenderName() {
        return senderName;
    }

    public void setSenderName(String senderName) {
        this.senderName = senderName;
    }

    public String getSenderAdress() {
        return senderAdress;
    }

    public void setSenderAdress(String senderAdress) {
        this.senderAdress = senderAdress;
```

```
    }

    public String getRecipientName() {
        return recipientName;
    }

    public void setRecipientName(String recipientName) {
        this.recipientName = recipientName;
    }

    public String getRecipientAddress() {
        return recipientAddress;
    }

    public void setRecipientAddress(String
recipientAddress) {
        this.recipientAddress = recipientAddress;
    }

    public double getWeight() {
        return weight;
    }

    public void setWeight(double weight) {
        this.weight = weight;
    }

    public double getCostPerOunce() {
        return costPerOunce;
    }

    public void setCostPerOunce(double costPerOunce) {
        this.costPerOunce = costPerOunce;
    }

    public double calCost() {
        return this.weight * this.costPerOunce;
    }
}
class TwoDayPackage extends Package{
    private double flatFee;
```

```
    public TwoDayPackage(){

    }
    public TwoDayPackage(String senderName, String
senderAdress, String recipientName, String
recipientAddress, double weight, double costPerOunce,double
flatFee){

super(senderName,senderAdress,recipientName,recipientAddres
s,weight,costPerOunce);
        this.flatFee=flatFee;
    }

    public double calCost(){
        return super.calCost()+this.flatFee;
    }
    public void setFlatFee(double flatFee) {
        this.flatFee = flatFee;
    }
    public double getFlatFee() {
        return flatFee;
    }



}
class OverNightPackage extends Package{
    private double additionalFee;

    public OverNightPackage(){

    }
    public OverNightPackage(String senderName, String
senderAdress, String recipientName, String
recipientAddress, double weight, double costPerOunce,double
additionalFee){

super(senderName,senderAdress,recipientName,recipientAddres
s,weight,costPerOunce);
        this.additionalFee=additionalFee;

    }
```

```
    public double getAdditionalFee() {
        return additionalFee;
    }

    public void setAdditionalFee(double additionalFee) {
        this.additionalFee = additionalFee;
    }
    public double calCost(){
        return super.calCost() + this.additionalFee;
    }
}
public class PackageDelivery {
    public static void main(String[] args) {
        Package p1=new
Package("hello","123","Hey","234",34.5,0.5);
        TwoDayPackage p2=new
TwoDayPackage("hello","123","Hey","234",34.5,0.5,12.3);
        System.out.println("The cost of simple Package
"+p1.calCost());
        System.out.println("The cost of Two Day  Package
"+p2.calCost());

    }

}
```

Question 2 :

```
abstract class Person{
    private String name;
    public Person(){

    }
    public Person(String name){
        this.name=name;

    }
    public void setName(String name) {
        this.name = name;
```

```
    }
    public String getName() {
        return name;
    }
    abstract boolean isOutstanding();

}

class Student extends Person{
    private double CGPA;

    public Student(){

    }
    public Student(String name,double CGPA){
        super(name);
        this.CGPA=CGPA;
    }
    public void setCGPA(double CGPA) {
        this.CGPA = CGPA;
    }

    public double getCGPA() {
        return CGPA;
    }
    @Override
    public boolean isOutstanding() {
        if(this.CGPA > 3.5){
            return true;
        }
        else{
            return false;
        }
    }

}
class Professor extends Person{
    private int numberOfPublication;

    public Professor(){

    }
```

```
    public Professor(String name,int numberOfPublication){
        super(name);
        this.numberOfPublication=numberOfPublication;
    }


    public int getNumberOfPublication() {
        return numberOfPublication;
    }

    public void setNumberOfPublication(int
numberOfPublication) {
        this.numberOfPublication = numberOfPublication;
    }

    public boolean isOutstanding(){
        if(this.numberOfPublication > 50){
            return true;
        }
        else{
            return false;
        }
    }
}
public class Person_Lab_Task_2 {
    public static void main(String[] args) {
        Person[] person=new Person[2];
        person[0]=new Student("Muzamil",3.7);
        person[1]=new Professor("Sohail",12);


        for(int i=0;i< person.length;i++){
            System.out.println("Name : is " +
person[i].getName());
        }



        Professor professor=(Professor) person[1];
        professor.setNumberOfPublication(100);
        System.out.println(professor.getName() + " is
outstanding ");}}
```

Question 3 :

```
abstract class Convert{
    protected double val1;
    protected double val2;

    public Convert(){

    }
    public Convert(double val1){
        this.val1=val1;
    }

    public abstract void convert();

    public double getVal1() {
        return val1;
    }

    public double getVal2() {
        return val2;
    }
}
class LitersToGallons extends Convert{
    public LitersToGallons(){

    }
    public LitersToGallons(double val1){
        super(val1);
    }
    public void convert(){
        val2 = val1 * 0.264172;
    }
}
class FarenhiteToCelcius extends Convert{
    public FarenhiteToCelcius(){

    }
    public FarenhiteToCelcius(double val1){
        super(val1);
    }
    public void convert(){
```

```
        val2 = (val1-32) * 5/9;
    }
}
class FeetToMeters extends Convert{
    public FeetToMeters(){

    }
    public FeetToMeters(double val1){
        super(val1);
    }
    public void convert(){
        val2=val1*0.3048;
    }

}

public class Conversions_Lab_TAsk_3 {
    public static void main(String[] args) {

        Convert con;

        con=new LitersToGallons(13);
        con.convert();
        System.out.println(con.getVal1() +" Liters is equal
to "+ con.getVal2() +" Gallons ");

        con=new FarenhiteToCelcius(15);
        con.convert();
        System.out.println(con.getVal1() +" Farenhite is
equal to "+ con.getVal2()+" Celcius");

        con=new FeetToMeters(18);
        con.convert();
        System.out.println(con.getVal1() +" Feet is equal
to "+ con.getVal2()+" Meters");

    }
}
```