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Program:	**BS in Software Engineering**
Course:	**Object Oriented Programming (SWE-103)**
Page Numbers:	

QUES 3:

```
public class Main{
    public static void main(String[] args) {
        GeometricFigure [] objArray = new GeometricFigure[2];
objArray[0] = new Square(3,3,"Square");         objArray[1] =
new Triangle(4,3,"Triangle");

        for (int i=0;i<2;i++){
objArray[i].calculateArea();
        }

    }
}

abstract class GeometricFigure{
    float height,width,area;
```

```
    String figureType;

    GeometricFigure(float height, float width, String figureType){
this.height = height;         this.width = width;
this.figureType = figureType;
    }

    abstract void calculateArea();
}

class Square extends GeometricFigure{

    Square(float height, float width, String figureType) {
super(height, width, figureType);
    }

    @Override     void
calculateArea() {         area =
this.width*this.height;
        System.out.println("Area of " + figureType +" "+ area);
    }
}

class Triangle extends GeometricFigure{

    Triangle(float height, float width, String figureType) {
super(height, width, figureType);
    }

    @Override
    void calculateArea() {
area = this.width*this.height;
```

```
        System.out.println("Area of " + figureType +" "+ area);
    }
}
```

QUES 4:

```
/*
* To change this license header, choose License Headers in Project Properties.
* To change this template file, choose Tools | Templates  * and open the template in the editor.
 */
package le4;

/**
 *
* @author Abdul Moiz Chishti
 */
public interface Turner {

    public void turn();



} package
le4;

/**
 *
* @author Abdul Moiz Chishti
 */
public class Leaf implements Turner {
public void turn(){
System.out.println("Changing colours");
```

```
    }

} package
le4;

/**
 *
* @author Abdul Moiz Chishti
 */
public class Page implements Turner{
public void turn(){
        System.out.println("Going to the next page");

    }

} package
le4;

/**
 *
* @author Abdul Moiz Chishti
 */
public class Pancake implements Turner{
public void turn(){
        System.out.println("Flipping");

    }
}
/*
* To change this license header, choose License Headers in Project Properties.  * To change this
   template file, choose Tools | Templates  * and open the template in the editor.
 */
```

```
package le4;


/**
 *
* @author Abdul Moiz Chishti
 */ public class
Le4 {


   /**
* @param args the command line arguments
    */
   public static void main(String[] args) {
       // TODO code application logic here


       Leaf l=new Leaf();
l.turn();
       Page p=new Page();
p.turn();         pc.turn();
   }


}
```

Output:

```
run:
Changing colours
Going to the next page
Flipping
BUILD SUCCESSFUL (total time: 0 seconds)
```

QUES 5:

```
class Inventory{

   int Id, weight,units,price;

   String name, color;
```

```
Inventory(String name,int Id){
   this.name=name;
   this.Id=Id;

}
 Inventory(String name,int Id,int units){
   this.name=name;
   this.Id=Id;
   this.units=units;

}
 void setWeight(int weight){
    this.weight=weight;
 }
 int getWeight(){
    return this.weight;
 }
 void setUnits(int units){
    this.units=units;
```

```
}

int getPrice(){
    return this.price;
}
void setPrice(String color){
    this.color=color;
}
String getColor(){
    return this.color;
}
void setColor(String color){
    this.color=color;
}
int getUnits(){
    return this.units;
}
 void setPrice(int price){
    this.price=price;
}
```

```
    void showInfo(){
        System.out.println("Name: "+this.name);
        System.out.println("Id: "+this.Id);
    }



}
public class LabExam {
   public static void main(String[] args) {
       Inventory I1=new Inventory("CHISHTI",42);
       I1.showInfo();
       Inventory I2=new Inventory("CHISHTI",42,77);
       I2.showInfo();



       Inventory I3=new Inventory("CHISHTI",42);
       Inventory I4=new Inventory("CHISHTI",42,77);


       I3.setWeight(53);
       I3.setUnits(4);
```

```
I3.setPrice(300);

I3.setColor("Blue");



I4.setWeight(599);

I4.setUnits(3);

I4.setPrice(50000);

I4.setColor("Black");



System.out.println("Weight: "+I3.getWeight());

System.out.println("Unit: "+I3.getUnits());

System.out.println("Price: "+I3.getPrice());

System.out.println("Color: "+I3.getColor()+"\n");









System.out.println("Weight: "+I4.getWeight());

System.out.println("Unit: "+I4.getUnits());

System.out.println("Price: "+I4.getPrice());

System.out.println("Color: "+I4.getColor());
```

```
    }

}
```

QUES 6:

```
/*
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  Properties.
* To change this template file, choose Tools | Templates  * and open the
  template in the editor.
 */
package javaapplication28; interface
Y{
    abstract void mul(int a,int b);
} interface
Z{
    abstract void div(int a,int b);
} class c{     int
div(int a,int b){
        System.out.println(a + "/" + b+"="+a/b);
return 0;
    };

} interface
X{

    abstract void add(int a,int b);
abstract void sub(int a,int b);
}

abstract class A extends c implements X,Y{

    @Override
```

```
    public void add(int a, int b) {
        System.out.println(a + "+" + b+"="+(a+b));
    }

    @Override
    public void sub(int a, int b) {
        System.out.println(a + "+" + b+"="+(a-b));
    }


    @Override
    public void mul(int a, int b) {
        System.out.println(); //To change body of generated methods, choose Tools | Templates.
    }
    }
class b extends A{     public
void mul(int a ,int b){
        System.out.println(a + "*" + b+"="+(a*b));
}
}

public class JavaApplication28 {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
A ob=new A();         b ob1=new b();

        ob.add(2,4);
ob.sub(4,5);         ob1.mul(7,
8);
```

```
    }

}
```