1.)

**package** assignment12;

**public** **interface** Shape {

**public** **void** calArea();

}

**package** assignment12;

**public** **class** Rectangle **implements** Shape {

**private** **int** len;

**private** **int** bred;

**public** Rectangle(**int** len, **int** bred) {

**this**.len=len;

**this**.bred=bred;

}

@Override

**public** **void** calArea() {

**int** Area = len\*bred;

System.***out***.println(Area);

}

}

**package** assignment12;

**public** **class** Circle **implements** Shape {

**private** **int** rad;

**private** **final** **float** pi = 3.14f;

**public** Circle(**int** rad) {

**this**.rad=rad;

}

@Override

**public** **void** calArea() {

**float** Area = pi\*rad\*rad;

System.***out***.println(Area);

}

}

package assignment12;

import java.util.ArrayList;

import java.util.Iterator;

import java.util.LinkedList;

import java.util.List;

import java.util.Vector;

public class Driver {

public static void main(String []args) {

// ArrayList li = new ArrayList();

// List li = new ArrayList();

// List li = new LinkedList();

// List li = new Vector();

// Vector li = new Vector();

// li.add(new Rectangle(10,20));

// li.add(540);

//List<Rectangle> li = new LinkedList();

List<Shape> li = new LinkedList();

li.add(new Rectangle(10, 20));

li.add(new Circle(40));

/\*

Iterator it = li.iterator();

while(it.hasNext()) {

Object obj = it.next();

if(obj instanceof Rectangle)

((Rectangle)obj).calArea();

System.out.println("Element in arraylist is " + obj);

}\*/

/\* for(Rectangle rectangle:li) {

rectangle.calArea();

}

\*/

for(Shape shape:li) {

shape.calArea();

}

}

}

o/p –

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