Using the following class diagram as a basis, outline a complete application

, demonstrating clearly how **polymorphism is realized** in java.

Note: A Square is represented by one attribute (width) and the area is width \* width.

A Rectangle is represented by a second attribute and the area is width \* length.

Shape

#int width

Shape(int w)

int calculateArea()

Square

Square(int w)

int calculateArea()

Rectangle

-int length

Rectangle(int w, int l)

int calculateArea()

class Shape

{

protected int width;

public Shape(int w) { width = w; }

:

}

public class Ex1

{

public static void main(String[] args)

{

Shape []s = new Shape[2];

s[0] = new Square(5);

s[1] = new Rectangle(2, 4);

for (int i = 0; i < 2; i++)

{

System.out.println("Area of shape “+(i+1)+” :” + s[i].calculateArea());

}

}

}