**public** **class** RectangleTrianglePolymorphism {

**private** **double** length;

**private** **double** breadth;

**private** **double** base;

**private** **double** height;

**public** RectangleTrianglePolymorphism()

{

}

**public** RectangleTrianglePolymorphism(**int** a,**int** b,**int** c,**int** d)

{

length=a; breadth=b; base=c; height=d;

}

**public** RectangleTrianglePolymorphism(**float** a,**float** b,**float** c,**float** d)

{

length=a; breadth=b; base=c; height=d;

}

**public** RectangleTrianglePolymorphism(**int** a,**float** b,**int** c,**float** d)

{

length=a; breadth=b; base=c; height=d;

}

**public** RectangleTrianglePolymorphism(**float** a,**int** b,**float** c,**int** d)

{

length=a; breadth=b; base=c; height=d;

}

**public** RectangleTrianglePolymorphism(**float** a,**int** b)

{

length=a; breadth=b; base=10; height=20;

}

**public** **int** getRectangleArea(**int** a,**int** b)

{

**return** a\*b;

}

**public** **double** getRectangleArea(**int** a,**float** b)

{

**return** a\*b;

}

**public** **double** getRectangleArea(**double** a,**double** b)

{

**return** a\*b;

}

**public** **double** getTriangleArea(**int** a,**int** b)

{

**return** (0.5f)\*a\*b;

}

**public** **double** getTriangleArea(**float** a,**int** b)

{

**return** (0.5f)\*a\*b;

}

**public** **double** getTriangleArea(**int** a,**float** b)

{

**return** (0.5f)\*a\*b;

}

**public** **double** getTriangleArea(**double** a,**double** b)

{

**return** (0.5f)\*a\*b;

}

**public** **double** getLength() {

**return** length;

}

**public** **double** getBreadth() {

**return** breadth;

}

**public** **double** getBase() {

**return** base;

}

**public** **double** getHeight() {

**return** height;

}

}

**public** **class** RectTriaPolyCheck {

**public** **static** **void** main(String[] args) {

RectangleTrianglePolymorphism rtp = **new** RectangleTrianglePolymorphism(10,20,30,40);

RectangleTrianglePolymorphism rtp1 = **new** RectangleTrianglePolymorphism(10.5f,20,30.5f,40);

RectangleTrianglePolymorphism rtp2 = **new** RectangleTrianglePolymorphism(10,20.5f,30,40.5f);

RectangleTrianglePolymorphism rtp3 = **new** RectangleTrianglePolymorphism(10.5f,20.5f,30.5f,40.5f);

RectangleTrianglePolymorphism rtp4 = **new** RectangleTrianglePolymorphism(10,20);

System.***out***.println("Area of Rectangle:");

System.***out***.println("-----------------");

System.***out***.println("for the given sides of length : "+rtp.getLength()+" & breadth :"+rtp.getBreadth()+ ", Area of Rectangle is "+ rtp.getRectangleArea(rtp.getLength(), rtp.getBreadth()));

System.***out***.println("for the given sides of length : "+rtp1.getLength()+" & breadth :"+rtp1.getBreadth()+ ", Area of Rectangle is "+ rtp1.getRectangleArea(rtp1.getLength(), rtp1.getBreadth()));

System.***out***.println("for the given sides of length : "+rtp2.getLength()+" & breadth :"+rtp2.getBreadth()+ ", Area of Rectangle is "+ rtp2.getRectangleArea(rtp2.getLength(), rtp2.getBreadth()));

System.***out***.println("for the given sides of length : "+rtp3.getLength()+" & breadth :"+rtp3.getBreadth()+ ", Area of Rectangle is "+ rtp3.getRectangleArea(rtp3.getLength(), rtp3.getBreadth()));

System.***out***.println("for the given sides of length : "+rtp4.getLength()+" & breadth :"+rtp3.getBreadth()+ ", Area of Rectangle is "+ rtp4.getRectangleArea(rtp4.getLength(), rtp4.getBreadth()));

System.***out***.println("\n\nArea of Triangle:");

System.***out***.println("-----------------");

System.***out***.println("for the given sides of base : "+rtp.getBase()+" & height :"+rtp.getHeight()+ ", Area of Triangle is "+ rtp.getTriangleArea(rtp.getBase(), rtp.getHeight()));

System.***out***.println("for the given sides of base : "+rtp1.getBase()+" & height :"+rtp1.getHeight()+ ", Area of Triangle is "+ rtp1.getTriangleArea(rtp1.getBase(), rtp1.getHeight()));

System.***out***.println("for the given sides of base : "+rtp2.getBase()+" & height :"+rtp2.getHeight()+ ", Area of Triangle is "+ rtp2.getTriangleArea(rtp2.getBase(), rtp2.getHeight()));

System.***out***.println("for the given sides of base : "+rtp3.getBase()+" & height :"+rtp3.getHeight()+ ", Area of Triangle is "+ rtp3.getTriangleArea(rtp3.getBase(), rtp3.getHeight()));

System.***out***.println("for the given sides of base : "+rtp4.getBase()+" & height :"+rtp4.getHeight()+ ", Area of Triangle is "+ rtp4.getTriangleArea(rtp4.getBase(), rtp4.getHeight()));

}

}

OutPut:

Area of Rectangle:

-----------------

for the given sides of length : 10.0 & breadth :20.0, Area of Rectangle is 200.0

for the given sides of length : 10.5 & breadth :20.0, Area of Rectangle is 210.0

for the given sides of length : 10.0 & breadth :20.5, Area of Rectangle is 205.0

for the given sides of length : 10.5 & breadth :20.5, Area of Rectangle is 215.25

for the given sides of length : 10.0 & breadth :20.5, Area of Rectangle is 200.0

Area of Triangle:

-----------------

for the given sides of base : 30.0 & height :40.0, Area of Triangle is 600.0

for the given sides of base : 30.5 & height :40.0, Area of Triangle is 610.0

for the given sides of base : 30.0 & height :40.5, Area of Triangle is 607.5

for the given sides of base : 30.5 & height :40.5, Area of Triangle is 617.625

for the given sides of base : 10.0 & height :20.0, Area of Triangle is 100.0