1.

Code:

|  |
| --- |
| public class ShapeManager{ |
|  | public static void main(String[] args) { |
|  | Rect rectangle = new Rect(10, 20); |
|  | Circle circle = new Circle(20); |
|  | Square square = new Square(20); |
|  |  |
|  | rectangle.manageShape(); |
|  | circle.manageShape(); |
|  | square.manageShape(); |
|  | } |
|  | } |
|  |  |
|  | class Shape{ |
|  | double param1, param2; |
|  | Shape(){ |
|  | this.param1 = 0.0; |
|  | this.param2 = 0.0; |
|  | } |
|  |  |
|  | Shape(double param1){ |
|  | this.param1 = param1; |
|  | this.param2 = 0.0; |
|  | } |
|  |  |
|  | Shape(double param1, double param2){ |
|  | this.param1 = param1; |
|  | this.param2 = param2; |
|  | } |
|  |  |
|  | void manageShape(Shape myShape){ |
|  | myShape.printDescription(); |
|  | } |
|  |  |
|  | void printDescription(){ |
|  | System.out.println("Prints description of shapes"); |
|  | } |
|  |  |
|  | } |
|  |  |
|  | class Rect extends Shape{ |
|  |  |
|  | Rect(){super();} |
|  | Rect(double param1, double param2){super(param1, param2);} |
|  |  |
|  | void manageShape() { |
|  | super.manageShape(this); |
|  | } |
|  |  |
|  | @Override |
|  | void printDescription(){ |
|  | System.out.println("Height:"+this.param1); |
|  | System.out.println("Width:"+this.param2); |
|  | System.out.println("Area:"+this.param1\*this.param2); |
|  | } |
|  |  |
|  | } |
|  |  |
|  | class Circle extends Shape{ |
|  | Circle(){super();} |
|  | Circle(double param1){super(param1);} |
|  |  |
|  | void manageShape(){ |
|  | super.manageShape(this); |
|  | } |
|  |  |
|  | @Override |
|  | void printDescription(){ |
|  | System.out.println("Radius:"+this.param1); |
|  | System.out.println("Area:"+ (3.14\*this.param1\*this.param1)); |
|  | } |
|  | } |
|  |  |
|  | class Square extends Shape{ |
|  | Square(){super();} |
|  | Square(double param1){super(param1);} |
|  |  |
|  | void manageShape(){ |
|  | super.manageShape(this); |
|  | } |
|  |  |
|  | @Override |
|  | void printDescription(){ |
|  | System.out.println("Side:"+this.param1); |
|  | System.out.println("Area:"+this.param1\*this.param1); |
|  | } |
|  | } |