

Shapes Inheritance

In this programming challenge, you will create three classes: Shape, Rectangle, and Circle. Shape is a base class, and Rectangle and Circle are derived classes. You will use the existing *Point* structure already defined in .NET, which has two properties named X and Y.

The Shape class has a single property named **Name**, a constructor with a Name parameter, and a Must Override method named **GetArea** that returns a Double. It has a ToString method that returns the name of the shape.

The Rectangle class has two private members of type Point that represent the upper left and lower right corners of a rectangle. It has a constructor that initializes the two corner points of the rectangle. It overrides the GetArea method, which calculates the rectangle area as the length times width. It has a ToString method that displays the two point values.

The Circle class has two private members: the center of the circle, which is a Point object, and the radius of the circle, which is a Double. It has a constructor that initializes the center and radius values. It overrides the GetArea method by computing the area as **Math.PI** times the radius squared. It has a ToString method that displays the center point and the radius.

In the application's startup form, create Rectangle and a Circle. Display the contents of both shapes, as well as their calculated areas, rounded to two decimal places.

A sample output

