

Scala programming

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1. Write a Scala program that creates an abstract class Shape with an abstract method area.

Implement subclasses Rectangle and Circle that override the area method.

Code:

```
abstract class Shape {  
    def area: Double  
}  
  
class Rectangle(width: Double, height: Double) extends  
Shape {  
    override def area: Double = width * height  
}
```

```

class Circle(radius: Double) extends Shape {
  override def area: Double = math.Pi * radius * radius
}

object ShapeApp {
  def main(args: Array[String]): Unit = {
    val rectangle = new Rectangle(7, 5)
    println(s"Rectangle Area: ${rectangle.area}")
    val circle = new Circle(4.5)
    println(s"Circle Area: ${circle.area}")
  }
}

```

Output:

The screenshot shows a web browser window with the OneCompiler website. The code editor displays the Scala code from the previous block. The output panel on the right shows the following results:

```

STDIN
Input for the program ( Optional )

Output:
Rectangle Area: 35.0
Circle Area: 63.61725123519331

```

Below the code editor, the text "Scala Online Compiler" is visible. At the bottom of the browser window, the macOS dock is shown with various application icons.