



1. Write a class named **Octagon** that extends **Shape** class, and implements the **Comparable** and **Cloneable** interfaces. Assume that all 8 sides of the Octagon are of equal size. The area can be computed using the formula:

$$\text{area} = 2 * \text{side}^2 (1 + \sqrt{2})$$

Write a test program that creates an Octagon object with side=5, and displays its area and perimeter. Create a new object using the clone method and compare the two objects using the compareTo method.