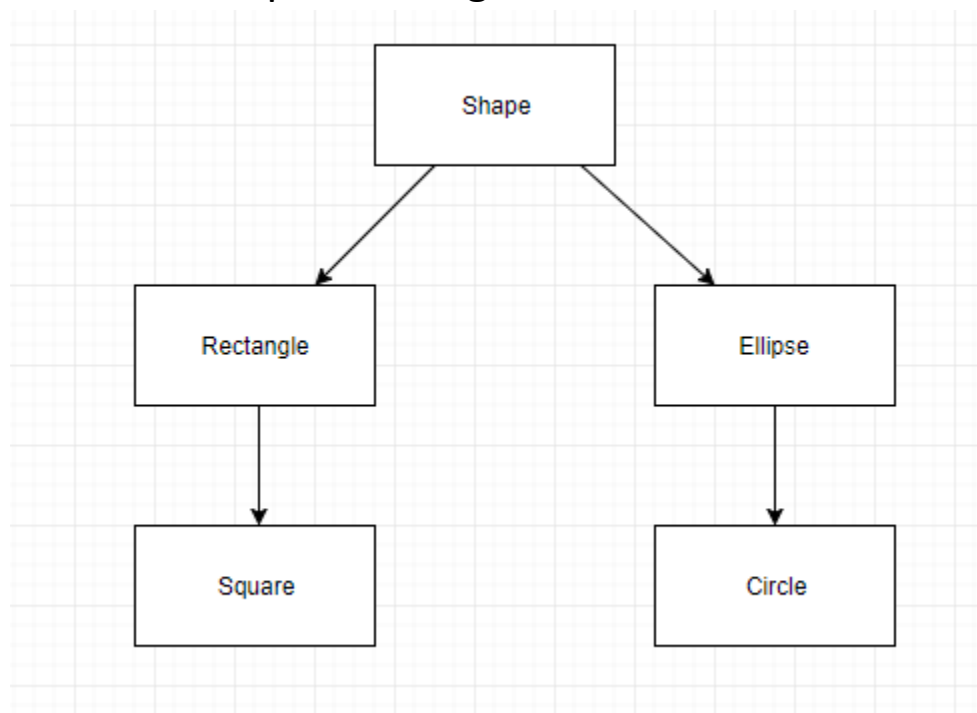


# ICS114 Lab 12

## GOALS:

- a. to gain experience with inheritance in Java

**1. The Hierarchy** – When using inheritance in OOP, it is always important to have an understanding of the hierarchy involved. The best way to depict a hierarchy is with a diagram. Here is the structure of the hierarchy that we will be implementing:



**2. Supplied Code** – The Shape, Ellipse and Circle classes are provided for you. Have a look at the code. See where and

how the keywords `extends`, `super` and `this` are used.

**3. Driver** – A driver, `ShapeTester.java` is also provided for you. Compile and run it. Be sure you understand the output.

**4. Add classes to the hierarchy** – Create the classes `Rectangle` and `Square`. These will be analogous to `Ellipse` and `Circle`, respectively. Note that you should include a method to calculate the perimeter of a rectangle. (Why did we choose to not include a method to calculate the perimeter of an ellipse?)

**5. Test your code** – Add code to `ShapeTester.java` to test your `Rectangle` and `Square` classes.

**6. Submit:** `ShapeTester.java`, `Rectangle.java`, `Square.java`