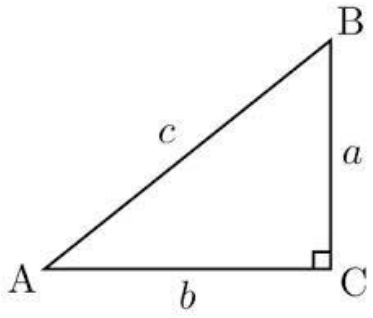
Shape Exercise

Case: A Triangle is one of the basic shapes of geometry represented by both a **base**(or **width**) and **height** (both **double**). A right triangle is a kind of triangle where one of the angles is 90 degrees. An example of a right triangle is shown below:



Notice the following equivalences for the sides:

base = b
height = a
hypotenuse = c

Implement a right triangle class in Java supporting the following features:

*Assume that all triangles are **right** triangles

a) Computation of the area and perimeter
b) Computation for the hypotenuse
c) Computation for the angles of the triangle. Use the following labels for the angles:
- Angle **A** is the angle opposite the **height** side of the triangle.
- Angle **B** is the angle opposite the **base or width** side of the triangle.
- Angle **C** is the angle opposite the **hypotenuse** side of the triangle.

** Refer to the Java Math API for the methods you'll be needing.

Tasks:

1. Write your class digram.
2. Create the Driver class, which asks for input from the user for the triangle's length and width, creates the Triangle object and display the information on screen:

Sides:

Base(b): <base>

Height(a): <height>

Hypotenuse(c): <hypotenuse>

Angles:

B: <angle B>

A: <angle A>

C: <angle C>

3. Use the triangle calculator at http://www.csgnetwork.com/righttricalc.html to verify your computation.