**Exercise**

Write a program which reads the given data (right panel) from a text file.

c,4

t,6.5, 7.89

c,9.3

c,3.2

r, 3.4,10

r,7.3

c,11.4

t,2.1,8

r,8.8,4.4

r,9.02

t, 5.5

c, 11.1

t,2.9, 6.7

t,4.4

c, 3.9

r, 6.2, 6.5

c,5.9

r,9.78

t,11.23, 4.2

t,12,9

The first letter in each line is the type of the shape, which can either Circle, Rectangle, or Triangle. Your program should define the classes for each of these shapes and create objects to store the data (radius for a circle, width and height for a rectangle, base and height for a right-angle triangle). You ultimate task is to create a CSV file (named shapes.csv) where the first line of the file should be the column headings, and then the data, as show below:

Shape Type,Length1,Length2,Perimeter,Area

Circle,4,,25.13,50.26

Triangle,6.5,7.89,24.61,25.64

……

The CSV data should be cleaned i.e. there should be no extra spaces. You should code as per following requirement:

1. Generalize the shape classes. Define Shape as an abstract class from which the other shape classes inherit.
2. Define Shape as interface instead of abstract class