**Description:** In this lab, you will be practicing the use of the built in List libraries in java.util including `ArrayList`, `List`, and `Collections`. I provide you with a template which you will modify to find the distance between Philadelphia and a list of other cities. Store these distances in an generic `ArrayList` of type `DistCities`. Sort the list of `DistCities` by the `Collections.sort` static method.

The following imports should be included in your java file.

```java
import java.util.ArrayList;
import java.util.List;
import java.util.Collections;
```

First implement the `City` constructor. The constructor should simply set the fields of the city class with the values of the constructor argument.

Next implement the constructor for the `DistCities` class. The origin, destination, and distance should be set in this constructor. To find the distance between two points, use the Euclidean distance formula. The **Euclidean distance** between two points \( P = (x, y) \) and \( Q = (a, b) \) in space is defined as \( d(P, Q) = \sqrt{(x - a)^2 + (y - b)^2} \). If you would like to use built in commands, you may use the Math library located in java.lang. (does not need to be imported). Relevant functions would be `Math.pow` and `Math.sqrt`.

Finally, override the `toString` method to print out the origin, destination, and distance, and the `compareTo` method to evaluate the objects of the class based upon distance.

Rubric:
(5 points) Compiles without errors.
(10 points) City class correctly implemented.
(20 points) DistCities class correctly implemented.
(5 points) driver program correctly implemented.

**Deliverables:** Submit on the CSC website.