

Testing Exercise

Two airports are `closeTo` each other if they are within 25 miles of each other. Write the tests to show that the `closeTo(Object o)` method is not an `equals` method.

1. Write the test to show that `closeTo` is reflexive (i.e., an airport a is `closeTo` itself)
2. Write the test to show that `closeTo` is symmetric (i.e., an airport a is `closeTo` airport b then airport b is `closeTo` airport a)
3. Write the test to show that `closeTo` is not transitive (i.e., airport a can be `closeTo` airport b and airport b can be `closeTo` airport c, but airport a is not `closeTo` airport c)

The setup code for each test is the following. You should use the `closeTo` method of the `Airport` class to test the properties.

```
ArrayList<Airport> list = db.findAirportByCity("Detroit");  
// DTW  
Airport ap0 = list.get(0);  
// DET  
Airport ap1 = list.get(1);  
// YIP  
Airport ap2 = list.get(2);
```

The three airports (DTW, DET, and YIP) have the following distances from each other:

- DTW - DET: 22 mi
- DTW - YIP: 9 mi
- DET - YIP: 29 mi

Download the code from gitlab using:

```
git clone https://gitlab.csc.tntech.edu/jgannod1/csc2310-sp21/lectures/airports.git
```