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| **COMP 1230 – Computer Programming II**  **Assignment #4: Polymorphism, equals, compareTo** |

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Problem

1. Use the Plant, Tree, Flower and Vegetable classes you have already created. Add an equals method to Plant, Tree and Flower only (see #2 below and the code at the end).
2. The equals method in Plant will check the name. In Tree it will test name (use the parent equals), and the height. In Flower it will check name and color. In Vegetable it will check name by calling the method it inherits from Plant.
3. Create an array of Plants containing at least 2 plants of each type (trees, flowers, vegetables). Using polymorphism display the details of each plant in the array.
4. Use a cast to access two plants in the array to do sets and gets of at least 2 of (height, color, and taste). Show that the code works by producing suitable outputs.

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1. Finally have the Tree class implement Comparable, and code the compareTo method to test the height. Show that the compareTo method can generate each of the 3 possible outcomes.

Criteria

Create a Plant array with 2x of each flower, tree, vegetable type

Cast each element inside array to respective type and use set/get methods

Test equals method for all three classes, Flower, Plant

Test compareTo method for Tree class

Test toString methods for all classes exclude Plant