**OOP Lab06 – Random Acts of Kindness**



Was the Boxer lab too violent for you? Maybe this one will be to your liking.

The goal of this lab isto create a **Person** class with 2 fields (instance variables) for name and happiness. You then make a **KindnessRunner** that allows a large group of people to be nice to each other! Exciting!

What’s in the KindnessRunner?

* Instantiate 4 different people objects – Three of them with happiness values of 0 and one with a happiness value of 30.
* Did you know that you can create an array to hold these 4 people?! Create an array that can hold exactly 4 Person objects and load your 4 people in there.
  + Remember how you can create an array that can hold Strings by typing:
    - String[] words = new String[30];
  + Use that as a model for creating an array that can hold 4 people,instead of 30 strings.
    - Person[] people = new Person[4];
* Each day (think while loop), every happy person (a person with a happiness value of 30 or higher) performs a random act of kindness (either to another person or to themselves).
* The simulation stops when every person has a happiness value over 50.

What’s in the Person class?

* Private instance variables: name (String) and happiness (int)
* Constructors, modifiers & accessors (as appropriate)
* An actOfKindness(Person other) method that displays a nice message and raises the happiness of another person (passed in as parameter) by a random amount from 10 to 30.
* An overridden toString() method that returns name followed by happiness in parentheses.

Hint: Don’t forget that you can print an array using Arrays.toString(people)

Sample Output on next page. Follow the formatting suggested on the sample output!

Starting point

[Fred (0), George (0), Bill (0), Mary (30)]

Day 1

Mary hugs Bill (+13 happiness)

[Fred (0), George (0), Bill (13), Mary (30)]

Day 2

Mary compliments George’s shoes (+19 happiness)

[Fred (0), George (19), Bill (13), Mary (30)]

Day 3

Mary compliments Bill’s shoes (+18 happiness)

[Fred (0), George (19), Bill (31), Mary (30)]

Day 4

Bill helps Fred with homework. (+24 happiness)

Mary hugs Fred (+12 happiness)

[Fred (36), George (19), Bill (31), Mary (30)]

Day 5

Bill compliments Mary’s shoes (+17 happiness)

Fred hugs Mary (+15 happiness)

Mary helps George with homework. (+30 happiness)

[Fred (36), George (49), Bill (31), Mary (62)]

Day 6

Bill compliments George’s shoes (+10 happiness)

Fred hugs George (+11 happiness)

George hugs Fred (+13 happiness)

Mary helps Bill with homework. (+14 happiness)

[Fred (49), George (70), Bill (45), Mary (62)]

… This continues until all 4 people have happiness over 50.

(Although it didn’t come up in this example, it is possible for a person to be kind to themselves. After all, isn’t it possible to increase your own happiness by being nice to yourself?)