

COMP 1230 – Programming 2

Assignment #8 Generics

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Problem:

The purpose of this problem is to practice using a generic Jar class.

Create a generic class, called Jar, with a type parameter that simulates drawing an item at random out of a Jar. For example the Jar might contain Strings representing names written on a slip of paper, or the Jar might contain integers representing a random drawing for a lottery. Include the following methods in your generic class, along with any other methods you'd like:

- an add() method that allows the user to add **one** object of the specified type
- an isEmpty() method (returns true if the Jar is empty, otherwise returns false)
- a drawItem() method that randomly selects an object from the Jar and returns it. Return null if the Jar is empty. Do not delete the selected item. (see Note below)
- a toString() method (returns a String containing the Jar's contents)

Requirements:

Your Jar class will need an array of size 10 to hold the objects in the Jar, and a count variable to maintain a count of how many objects are actually in the Jar.

In the driver file that tests your class create 2 Jars, one with the names of 6 of your friends, the other with numbers between 2 and 8 inclusive representing the number of hours you will spend partying tonight with 3 of your friends.

Use the add() method to populate the 2 Jars, and the drawItem() method for each Jar to determine i) which 3 friends you will invite out to party with and ii) how many hours of partying you and your friends will do.

Test Cases:

Test all methods- add, drawItem, toString, isEmpty

Test Ctor and make sure it's doing what a Generic type should do

Test for random in names and hours drawing