Mock Test

This is a mock test for which you will not get a grade. Test your knowledge and test how to submit your programs for assessment to the Moodle e-learning platform.

Create the following four programs. You have 40 minutes in total. Submit the files to the Moodle platform. **The tasks will be assessed automatically. Make sure that the names of the created classes, attributes and methods are consistent with the content of the task.**

Define a class Person with two attributes describing a person: name (String) and age (int). Apply data encapsulation. Define a constructor with the parameters name and adult to assign an initial values of object's attributes. Define access and modification methods for each attribute (getter and setter methods). Use method names according to the naming convention. Then define a method isAdult() that returns true if a person is an adult (person has at least 18 years) or false otherwise. Finally, define a method that returns a string representation of the object (name and age, separated by comma). Example:
Person p = new Person("Anna",21)
p.getAge() => 21
p.isAdult() => true
p.setAge(17)
p.isAdult() => false
p.toString() => "Anna,21"

Define a MyArrays class with two static methods: even(int[] array) method that returns the number of even values in the array, and the positiveOdd(int[] array) method that returns the number of positive odd numbers in the array. Example:
MyArrays.even({2,-6,5,8}) => 3
MyArrays.positiveOdd({3,2,-5,4,1,-7}) => 2

Define a class Counter that allows you to create a counter of integer type. The initial value of the counter is 0. The class includes an increase() method that increases the value of the counter by 1 and a decrease() method that decreases the value of the counter by 1. Also create the overloaded methods increase(int n) and decrease(int n) that allow you to increase or decrease the value of the counter by the value of n. Add a value() method in the class that returns a counter value. Example:
Counter c = new Counter()
c.value() => 0
c.increase()
c.increase()
c.decrease()
c.increase(5)
c.decrease(2)
c.value() => 4

Define a class Alphabet that contains a static method isAlphabet(String t) that returns true if the letters in the text t are in alphabetical order or false otherwise. Example:
Alphabet.isAlphabet("abegsw") => true
Alphabet.isAlphabet("abcmhsw") => false