Programing Languages 2
Test 2 (T 8)

Full Name: _____   Neptun:_____

As I already did it by taking this course, I accept all rules and regulations written on the homepage of the course. Without signature this Exam cannot be graded, and counted in to the final grade.

If the project has syntax errors 2 points are subtracted from the final score.

_____

signature

1. Create a **new** NetBeans Java **project**. The name of the project has to be your name (Use the same name as on this sheet). The name of the package has to be testTwo. The name of the main class is Main. (3p)

2. Create a **new class** named `Person` in the `testTwo` package. This class has the following attributes: `familyName`, `givenName` and `gender` (a boolean variable `true`/`false` for male/female). All this properties are hidden from the outside. (2p)

3. Create **getter and setter** methods for the above attributes. (1p)

4. **Add a constructor** that has 3 parameters with which the user can set all three properties of the newly instantiated `Person` object. <u>For the gender the constructor has to get a String parameter instead of a boolean one</u>. (If the value of this parameter is "male" then the created Person will be a male. Else the Person will be a female.) (3p)

5. Override the `equals` **method** of the `Person` class so that two persons are equal if all their properties are the same. (3p)

6. Add the following **interface** to your project (into the `testTwo` package): (1p)

```
package testTwo;

public interface groupOfPersons {
    public void addPerson(Person p) throws SameNameException;
    public void printAllPersons();
}
```

Implementations of this interface can contain `Person` objects. The number of the Persons is not known in advance. The `SameNameException` is **an Exception that you have to add** to the `testTwo` package. The exception is thrown if one tries to add a new `Person` with the same name and `gender` as a previously added person. (1p)

7. **Implement the** above **interface** in your project. The name of the class that implements the interface has to be `Workgroup` and it has to be in the `testTwo` package. In the implementing class make sure that (1p)
   - ⚐ Persons can be contained by instances of the class (1p)
   - ⚐ New persons can be added using the `addPerson` method (3p)
   - ⚐ All persons can be printed out using the `printAllPersons` method. All persons are in different lines. One line looks like this:
     ```
       givenName familyName (gender)
     ```
     where gender is "`male`" or "`female`"
     e.g.: `Bob Marley (male)`   (4p)
8. In the `main` method instantiate a **new Workgroup object.** Add a new `Person` to the Workgroup instance with these data: "`Nick, Cave, true`" (3p)
9. In the `main` method read data from the keyboard for a person and add a new person to the Workgroup instance with these data. (*It is advised to solve Ex. 10 before this exercise*) (3p)
10. Print out the `Persons` in the `Workgroup` using the implementation of the `printAllPersons` method. (1p)