UNIVERSITATEA BABEŞ-BOLYAI
Facultatea de Matematică şi Informatică

Specialization: Mathematics and Computer Science
Course: Advanced Programming Methods

Lab 2 Assignments
Classes and data structures

Lab-assignment:

A. Write a Java class with at least three instance attributes of different types. For example, Car with the following attributes: a manufacturer, a model, maximum speed, a price and a manufacturing year. Implement the constructors, setters and getters, and other required methods .
B. Using the data structures included in the Java SDK and the class from A, write a program that computes different kinds of information. For example, for a collection of cars, the program prints the following information:
   -the cheapest car;
   -the fastest car;
   -the models manufactured by a given manufacturer;

   For testing, you will create some Cars in the main function and add them to the chosen data structure.

```
class Lab2Test{
      public static void main(String[] args){
            Car c1=new Car("BMW", "X6",300,15000,2018);
            Car c2=new Car("Suzuki", "Ignis",200,10000,2010);
            // and so on ...
      }
}
```

Home-assignment:

For the next lab you have to implement ONLY the classes corresponding to the domain and the in-memory repository for one of the following problems. For the repository part you have to use interfaces or abstract classes.

1. Design and implement a Java solution for managing the appointments to a dentist. The program should allow adding a new patient, adding a new appointment, cancelling an appointment, creating different reports, etc.

2. Design and implement a Java solution for managing the orders for birthday-cakes from a cake-shop. The program should allow adding a new type of birthday-cake, adding a new order, cancelling an order, finishing an order, creating different reports, etc.

3. Design and implement a Java solution for managing the reservations for car rentals. The program should allow adding a new car for renting, creating a reservation, cancelling a reservation, creating different reports, etc.