UTI 526 Object Oriented Programming
1st Homework
Assignment Date: 26.02.2024
Due Date: 04.03.2024

From: Java How to Program, Early Objects (10th Edition), Paul J. Deitel and Harvey Deitel, Pearson, 2015.

3.16. *(Target-Heart-Rate Calculator)* While exercising, you can use a heart-rate monitor to see that your heart rate stays within a safe range suggested by your trainers and doctors. According to the American Heart Association (AHA) (www.americanheart.org/presenter.jhtml?identifier=4736), the formula for calculating your maximum heart rate in beats per minute is 220 minus your age in years. Your target heart rate is a range that's 50–85% of your maximum heart rate. [Note: These formulas are estimates provided by the AHA. Maximum and target heart rates may vary based on the health, fitness and gender of the individual. Always consult a physician or qualified health-care professional before beginning or modifying an exercise program.] Create a class called HeartRates. The class attributes should include the person's first name, last name and date of birth (consisting of separate attributes for the month, day and year of birth). Your class should have a constructor that receives this data as parameters. For each attribute provide set and get methods. The class also should include a method that calculates and returns the person's age (in years), a method that calculates and returns the person's maximum heart rate and a method that calculates and returns the person's target heart rate. Write a Java app that prompts for the person's information, instantiates an object of class HeartRates and prints the information from that object—including the person's first name, last name and date of birth—then calculates and prints the person's age in (years), maximum heart rate and target-heart-rate range. **(100 points)**

Important Notes:
1. All source code and related homework reports should be submitted via [Ege Ders](#) platform: 2023 - 2024 Bahar Dönemi → Enstitüler → Fen Bilimleri Enstitüsü → Uluslararası Bilgisayar → Bilgi Teknolojileri ve İnternet Güvenliği → İÖ - Nesne Yönelimli Programlama - 540443 - 2324B → Hafta 3: Classes, Objects, Methods and Strings → Homework 1.
2. Do not forget to include appropriate comments in the source code. Hence the grader can easily understand the program during his/her assessment.
3. Write the programs in a simple and straightforward manner by considering object-oriented analysis and design principles.
4. Each report should include the printout of the related source code, two or more screenshots (depending on the illustration requirements) which exemplify execution of the programs and proper UML diagrams.
5. Homework reports are MANDATORY! Sending only source code without reports including the above mentioned content is subject to getting lower points.
6. IMPORTANT NOTICE: There will be significant point deductions for late, copied or shared submissions.