

Martin Przyjaciół-Zablocki
Christian Schindelbauer
Peter Thiemann

February 15, 2017
Anas Alzoghbi

Exercise Sheet No. 12 - Programming

Energy Informatics

Winter 2016

Submission deadline: 16.02.2016, at 11:15

Note: Write your name in all file names you submit, also inside the files. Make sure your code is running, well formatted and commented properly, then submit it for correction **per Email** at: alzoghba@informatik.uni-freiburg.de

Exercise 1: (Modeling)

In this exercise we will model the scenario of a mobile phone tariff and their costumers.

Mobile phone tariffs have the following information: a name, a monthly base fee, a price per minute and a price per text message. The base fee may contain free bonus minutes (zero or more, but only full minutes).

For each costumer, we keep a user profile that records the name, the number of monthly minutes on the phone, and the monthly count of text messages.

1. Define the classes and their attributes along with the correct data types for the entities occurring in this description. Submit the class diagram.
2. Implement the classes in Python and design a method `calculate_monthly_price` in the most suitable class.
3. Given a specific user profile and a list of tariffs, define a function that computes the cheapest tariff for the user profile.