Exercises Group data

Exercise 1

In this exercise you use the file *classrooms.txt*. In this file you will find for each student his surname, first name and the classroom where he will attend. The records in the file are grouped by room and by surname.

Write a program that prints an overview to see which students are in each classroom.

```
F013
     Nathan Craane
     Cedric Desmyter
     Alexander Paepen
     Philip Spruyt
     Evans Van Diepen
     Laurens Van Gansberghe
     Jason Vermote
Number of students in classroom F013 = 7
P108Z
     Carl Cloots
     Lukas Craane
     Sam Dierckx
     Pieter Dierckx
     Diederick Haagen
     Yves Plu
     Bart Silkens
     Ward Snoeks
     Selina Van Roey
     Brent Van Werde
     Timmy Wezenbeek
Number of students in classroom P108Z = 11
B203
     Danny Branders
     Kevin De Cock
     Steffie De Cort
     Pieter De Laet
     Frank Jochems
     Rob Linten
     Kevin Tubbax
     Vincent Valgaeren
     Jasper Van den Berg
Number of students in classroom B203 = 9
```

Exercise 2

In this exercise you use the file *courses.csv*. In this file you will find a number of records for each student: one for each course the student records. Per record you will find

- z-code
- course name
- student group
- student number
- surname
- first name

Write a program that creates a new file *students.csv* in which you have only 1 record per student.

students.csv

```
555274;Vannuffelen;Dries;Application Development in Java (1ITF C);Application Development in Java (1ITF B)
578811;Berckmans;Myriam;Application Development in Python (1ITF F)
596001;Ruysen;Jeff;Application Development in Python (1ITF B);Webdesign advanced (1ITF B)
639251;Vandeweyer;Lore;Application Development in Python (1ITF E);Application Development in Java (1ITF E);SQL (1ITF E);Webdesign essenti
640199;T'Seyen;Stef;Application Development in Python (1ITF F);Application Development in Java (1ITF G);SQL (1ITF F);Webdesign essentials
641749;Bruynseels;Tom;Application Development in Python (1ITF E);Application Development in Java (1ITF E);SQL (1ITF E);Webdesign essentia
649133;Smeyers;Peter;Application Development in Python (1ITF D);Application Development in Java (1ITF D);SQL (1ITF D);Webdesign essential
652803;Verwimp;Pascal;Application Development in Python (1ITF C);SQL (1ITF C);Webdesign essentials (1ITF C);Webdesign advanced (1ITF C)
657135;Vroemans;Adriaan;Application Development in Python (1ITF D);Application Development in Java (1ITF A);SQL (1ITF A);Webdesign essent
659683;Peeters;Hendrik;Application Development in Python (1ITF H);Application Development in Java (1ITF H);SQL (1ITF H);Webdesign essenti
```

Exercise 3

In this exercise you use the file *weatherstation_2018 10.csv.*
Write a program that prints the overview below. Each line contains one of the dates for which data were observed, followed by the number of measurements taken that day and the average temperature for that day.

```
Average temperatures:
8/10/2018   number of measurements = 720    average = 10.51
9/10/2018   number of measurements = 724    average = 12.44
10/10/2018  number of measurements = 718    average = 16.18
11/10/2018  number of measurements = 720    average = 18.68
12/10/2018  number of measurements = 718    average = 19.03
13/10/2018  number of measurements = 720    average = 20.96
14/10/2018  number of measurements = 720    average = 19.99
15/10/2018  number of measurements = 726    average = 19.13
>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
```

Exercise 4

In this exercise you use the file *sponsors.txt.* This file contains not only the unique number of the sponsor, but also his first name and surname and the sponsored amount.
These amounts were sponsored to a charity and some sponsors regularly make a donation.

Write a program that prints this overview. For each sponsor it is stated how much he/she deposited in total.

** indicates that the sponsor will receive a tax certificate. The sponsor receives this tax certificate if his total amount paid is at least 40€.

```
Overview gifts
Number  Sponsor
1144    Rik Plasmans    200 **
1270    Wout Beerens    30
1548    Werner Vetters  80  **
3271    Luc Vermeylen   100 **
4987    Mieke Mertens   20
7777    Chris Geerts    50  **
There are 4 tax certificates to be sent.
```