Exercises Set and Dictionary

Exercise 1

Write a program that asks for a string consisting of letters and numbers. When you press Enter, the program will first display all numbers, and afterwards all letters. All duplicates are removed.

```
Enter a text consisting only of letters and numbers: a1r2z3123arz56
The numbers:
1
6
2
5
3
The letters:
a
r
z
```

Exercise 2

For this exercise you use the files *first_names1ITF.txt* and *first_names2ITF.txt*.

a) Write a program that generates the following output.

```
In 1ITF there are 164 different first names
In 2ITF there are 123 different first names
These are the 51 first names appearing in 1ITF and 2ITF
Jan
Christophe
Bjorn
Seppe
Jesse
Koen
Ian
Brent
Carl
Thomas
```

….

Take note: the order of the first names will be different every time you run this program.

b) Now adjust your program so that the list of first names is printed alphabetically.

```
In 1ITF there are 164 different first names
In 2ITF there are 123 different first names
These are the 51 first names appearing in 1ITF and 2ITF
Alexander
Arne
Bert
Bjorn
Bram
Brend
Brent
Carl
Christophe
Dieter
```

….

Exercise 3

For this exercise use the file *local_booking.txt.*

Write a program that prints all the classrooms that are used for the lessons in the input file.

Remark: if you run your program, the printed result might be in a different order

```
Classrooms:
G217
G206
BEMT-IND
B202
BEMT-ZK
P216C
P306B
```

Exercise 4

In this exercise you work with the files *games.txt* and *games.xml.*

In both files you will find information about board games. What interests us is how many types of games there are.

Read both files and generate the screenshot below.

```
In the txt-file: 19 types of games
In the xml-file: 4 types of games

The types that occur in both files:
{'educational', 'financial', 'strategic'}

The types that only appear in the txt-file:
{'horror', 'skills', 'running game', 'language', 'toddlers', 'puzzle', 'historical', 'cards',
'tactical', 'simulation',
'construction skills', 'dice', 'company', 'sport', 'memory', 'combination'}

The types that only appear in the xml-file:
{'gambling'}
```

Exercise 5

Create a Dictionary with the months and the number of days in that month.

Write a program to show the number of days of a chosen month. If the user presses Enter immediately on the first question, the complete overview is printed.

```
Month (press Enter if you want to see an overview of all months): June
30
```

```
Month (press Enter if you want to see an overview of all months): Mai
This month does not exist.
```

```
Month (press Enter if you want to see an overview of all months):
January      31
February     28
March    31
April    30
May      31
June     30
July     31
August   31
September    30
October      31
November     30
December     31
```

Exercise 6

a) Create a Dictionary with animals and their accompanying sound.

Use this Dictionary to let a student practice with the animal sounds as shown in the screenshot below. (green text = input from the student). The number of correct answers is printed at the bottom. Since the sound of the cow and the horse is wrong, the student scored 2 correct answers.

```
Do you know the animal sounds?
What is the sound of a horse: whistle
What is the sound of a cat: meows
What is the sound of a dog: barks
What is the sound of a cow: flies
You have 2 correct answers.
```

b) Expand the exercise so that the program reads the animals and the accompanying sound from a file. (you have to create this txt-file yourself)

Exercise 7

For this exercise you will use the file *tasks.csv* that contains a table showing who performs a specific task at a certain time. Write a program that allows you to check how many tasks everyone is supposed to do.

The output is as follows:

```
Task distribution:
Esther 4
Jonas 4
Lotte 6
Bert 6
Sam 4
Tom 3
Rob 4
Walter 4
```