Programing Technologies
Lesson 5

Streams

1. Download the streamexample.zip project file from the page of the class.

2. Check the Person class. Note that the date of birth is represented as a `LocalDate`.

3. Examine the examples provided in the main class.

   - Examples 1, 2 and 3 are about sorting. Note that in the filter stream operation what you really do is you implement a `Comparator`. (More precisely the `compare` abstract method of it.)

   - Example 4 and 5 show filtering. In example 5 note how we test if a date was more than 25 years ago.

   - Example 6 shows mapping.

   - Example 7 is about finding a limiting value.

   - Example 8 shows a bit more complex exercise about printing out the 3 smallest values. Note the use of the collect operation that produces a List from the output of the stream.

   - Example 9 demonstrates another way of collecting elements of the stream into one object. Note that on number streams you have many other possible operations.

   - Example 10 shows a very complex query solved in a few lines of code in a very intuitive way.

4. Based on the above examples add a static method to the main class that prints out those persons that have names longer than 10 characters.

5. Add another method that prints out the persons sorted by their birthday (in the same year).

6. Add a method that prints out only the first names of persons.

7. Add a method in which you print out alphabetically ordered those persons that are heavier than 70 kgs.

8. Print out in a method the person with the longest name.

9. In a method print out the sum of the weight of those persons that are below 70 kgs.

10. Print out in a method the first names of those persons who have birthdays in the next 3 weeks.