

Algorithms and Computational Thinking

TP-2: IDE's and Programming Basics

Objectives: In the second TP you will continue discovering IntelliJ and Xcode by writing additional introductory programs in high level languages (Python, Scala and Swift). This will improve your skills related to the programming development environments you worked with in TP-1.

Exercise 1: Interacting with the user and string concatenation

Objective: In the first exercise, you will interact with the user. The goal is to ask the user's firstname and age and display them by creating a single string composed of the name and the age.

Problem Statement:

Write a program (Python, Scala, Swift) to take one user input string (name) and one user input number (age), which correspond to user's firstname and user's age respectively, create a single string and display the result as indicated below.

Sample Output:

```
What is your name? Bob
How old are you? 20
Bob is 20 years old!
```

Exercise 2: Working with the Libraries

Objective: In the second exercise, you will discover how to use a specific library provided by the programming languages. The goal is to discover how to import a library in your code and call a function to which uses the libraries' features.

Problem Statement:

Write a program (Python, Scala, Swift) to simply display the current date of the day as described below.

Sample Output:

The current date is: 2017-9-24 12:28:31

Exercise 3: Mathematical problem

Objective: In the third exercise, you will solve a mathematical problem. The goal is to compute and use intermediate results stored in variables in order to compute a final result.

Problem Statement:

Write a program (Python, Scala, Swift) to solve the following mathematical problem:

Knight Ser Loras Tyrell is going to a tournament organized by the King of the seven crowns. In his way, he meets six knights, each of them accompanied by six squires. Each squire holds two horses and on each horse, there are two children.

Compute the total number of people and animals attending the tournament.

Hint: Use multiple variables to store intermediate results, such as *loras*, *knights*, *squires*, *horses*, *kids* and *totalNumberInTournament* with the appropriate value they must contain (for example, *loras* is equal to 1 because there is just one Ser Loras Tyrell in the statement).

Sample Output:

There are x persons and animals that are going to the tournament.