In this exercise we study C++ string handling.

Excercise A (2p) Using string class member functions

Start by downloading the program xmltemperature_pohja.cpp and xml-file wheather.xml from the workspace. The program xmltemperature_pohja.cpp reads the whole xml-file into a single string object.

Develop the program further so that it finds and extracts specified items from the xml-string using start and end tags. Now we find and extract and display first the location information and then the temperature information. Location can be found between the tags <location> and </location>. The temperature is between the tags <temp_c> and </temp_c>.

To make it easy to find whatever information from the, xml-string write a function that takes the xml-string and the "inner" text (same for start tag and end tag) of the tags as parameters and returns the text from between the start tag and end tags. If either start or end tag is not found the function must return `"not found"`. Note that when you search for the tag you must search for the whole tag (including angle brackets) not just the tag name that was given as parameter.

For example, if you wanted to find the location

```
location = find_field(page, "location");
```

and to get the temperature you could call it as follows:

```
temperature = find_field(page, "temp_c");
```

Excercise B (2p) Vector of strings

Write a program that reads strings from the keyboard. There is no upper limit for the number of strings. All strings are stored in a vector of strings. The data entry phase terminates when the user enters the “stop” string. This termination string is not stored in the vector.

When all strings have been entered the program displays all strings from the vector and the number of strings entered. Then the program finds out the longest string from the array and prints the longest string and its length.

The last thing the program does is that it displays the values returned by the member functions size and capacity of the vector.