

## HOMEWORK 9

Submission deadline: Sunday 17th of November, 20:00.

Any question, write to [giovanni.casini@uni.lu](mailto:giovanni.casini@uni.lu)

### QUESTION 1

Write three functions that receive as input any string of symbols and return an object of type **bytes** codifying the string. In case some characters in the string are not ASCII, each function should, respectively:

- (1) print an error message;
- (2) print an object of type **bytes** codifying the string, that just ignores and skips the characters that are not ASCII;
- (3) print an object of type **bytes** codifying the string, that substitutes each character that is not ASCII with some ASCII character.

*Hint:* check on internet the “`encode()`” method and the use of the parameter “`error`” in “`encode()`” and “`bytes()`”.

### QUESTION 2

Define two encryption systems:

- (1) Each of them should be implemented using two programs, one for the sender, one for the receiver.

The sender program receives as input any string of symbols and returns a different string of symbols, the “secret message”; the second program receives as input the “secret message” and returns the original string of symbols.

- (2) In the first encryption system create the secret message by changing the order of the characters in the message.
- (3) In the second encryption system create the secret message by changing the characters in the message.