

Homework - L1

Exercises

MANDATORY

*** DO NOT FORGET TO FINISH YOUR WORKING SET BEFOREHAND ***

1) Write a function that calculates the VAT for a given price passed as argument. (VAT is 20% of the price).

2) Write a function “round” that round a float to the closest integer.
If the decimal part is 0.5, the number is rounded in the opposite direction to zero:

round (-. 0.5) = -1; round 1.5 = 2.

The function must work for both positive and negative values. After that, write a function “round2” that rounds a real number to two decimal places using the “round” function.

3) Write a function that determines the median value of three integers using ONLY the min and max functions.

OPTIONAL

1) ex3, ex4 from: <http://staff.cs.upt.ro/~marius/curs/lcd/tema1.html> - type of possible exam subjects

2) create an account on Udemy, Coursera or other eLearning platforms

Research & independent study

MANDATORY - NEXT ON L2

*** YOU ARE NOT SUPPOSED TO DEEPLY UNDERSTAND ALL THIS CONCEPTS ***

*** STILL YOU NEED TO ALLOCATE SOME TIME TO INVESTIGATE THEM ***

*** YOUR INVESTIGATION NEEDS TO REFLECT THAT YOU CAN CARRY A SIMPLE DISCUSSION ABOUT A CERTAIN TOPIC IF NAMED DURING THE LABORATORY ***

*** YOU ALSO NEED TO KNOW THE OCAML SYNTAX OF THE MANDATORY SUBJECTS ***

1) Local definitions - Definitii interne

2) Tuples - Tupluri

3) Pattern matching

4) Recursion - highly important: tail recursion vs non-tail recursion

OPTIONAL

1) Investigate and try to understand the pillars of functional programming and their importance.

2) Read about functions' properties (injectivity, ...) from resources. They might appear in the exam.

3) Variant types - they will be used at some point in this lab

4) Record - Articolul (just so you know it exists, it will never be asked)

5) “Optional” type - this is very important for your future programmers career

6) Other types of recursion

