

Python lesson two - exercise

Listed below are the daily exercises for your second python lesson, the **first five are mandatory**, the latter are optional, i would advise to solve them as they will give you more in depth understanding.

General guidelines:

- 1) Your code should be clean and indented accordingly
- 2) Use comments
- 3) Catch errors when needed
- 4) Test your code with different inputs to verify it works correctly

Mandatory

- 1) Build a log file *my_log(msg,path)* :
 - a) If path doesn't exist create it
 - b) Log entry should be in the following format: dd/mm/yyyy hh:mm:ss: msg
 - c) Every entry starts at a new line
 - d) Catch relevant errors
- 2) Build *change_words_starting_with_a(list_to_check)*:
 - a) Use list comprehension
 - b) Append to all words starting with a the string "hello"
- 3) Build *list_square_even_power_odd(list_range)*:
 - a) Use list comprehension
 - b) All even indices will get the square root of their index
 - c) All odd indices will get the ^2 of their index
 - d) Verify range is relevant
- 4) Build *name_checker(list_of_names)*:
 - a) Returns all names in a list where the last name is missing
 - b) Build the function as generator
- 5) When would the use of generators be preferred over list comprehension and vice versa

Optional:

- 1) Build *get_roots(first, second, third)*:
 - a) The function calculates the square root of the function with coefficients first, second and third
 - b) Use lambda function
 - c) Verify that second^2 is bigger than $4 \cdot \text{first} \cdot \text{third}$
- 2) Build *directories(path)*:
 - a) Use OS module
 - b) Print all files and directories
 - c) Include sub directories