Task 1: Difference between dates

Implement a function which returns the difference float days between two dates given as strings

e.g. 31.12.2019 23:00 and 01.01.2020 02:00

Task 2: Convert decimal degrees

Implement a set of functions converting between float degrees and degrees, min and (optional) seconds

e.g. 123.75° => 123° 45min 0.0sec

12° 30min 9sec => 12.5025

2° 24min => 2.4

Task 3: Extract duplicate values from a List

Implement a function that returns in a new list the duplicate values of a list given as parameter

Task 4: spiral plot

Visualize the functions

$X(t) = \exp(-d\,t) * \cos(\pi\,t)$

$Y(t) = \exp(-d\,t) * \sin(\pi\,t)$

$d = 0.25$

$t = 0 \ldots 10$ with resonable step size dt

Using matplotlib

Task 5: Implement a simple stop watch with GUI

Task 6: read file

T6_input.txt contains columns of x and y values separated by a space (e.g. 123.45 67.89)

Read x and y values from the file and print the min and max of the product x * y

Task 7: SQL Query

Copy your queries and the results to a file T7_SQL.txt

Find all ProductIDs of the Supplier with ID=22

Find all Order Quantities of that Products (of the Supplier with ID=22)

From this info manually calculate the total Turnover (= Quantity * Price) of SupplierID = 22

Per SupplierID show

- Total turnover
- Number of orders
- Number of products
- Number of categories

Sorted by turnover highest first