Exercises 1 – Printing and basic mathematical operations

Note: remember to check out the code examples in Moodle for tips, in case you need help getting started!

1. Learning to program always starts from this exercise. ☺

   Create a Python application that prints "Hello world!" **on the screen.**

   Print also your name, address and year of birth (you don't have to use your real address and year of birth). Save the information into separate variables. **Print all information on separate lines.**

   Example of the application running:

   ```
   Hello world!
   Some Person
   1980
   Mystery St. 15 A 5, 96200 Rovaniemi
   ```

   Filename of the exercise = ***exercise1_1.py***

   Typical code amount ***: 7-10 lines*** *(empty lines/comments not included)*

2. Create an application that asks the price of a product from the user. Add the value added tax (VAT) to the price in your application, and print the result of the new price, rounded to **two** decimals.

   VAT in this case is 24%.

   Note: You can ask information (like the price) from the user by using the Python's input() –function. (check out the materials)

   Examples of the application running:

```
Give the price without VAT:
150
Price with VAT: 186.0 €
```

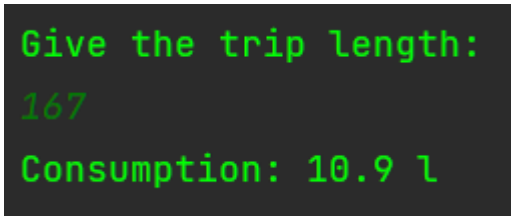
```
Give the price without VAT:
159.9
Price with VAT: 198.28 €
```

   Filename of the exercise = ***exercise1_2.py***

   Typical code amount ***: 4-7 lines*** *(empty lines/comments not included)*

3. Create an application **that asks the length of a road trip (kilometers) from the user**. Calculate the estimated fuel consumption, assuming the average consumption will be 6.5 liters per 100 kilometers. Print the result, and round it to **one** decimal.

Example of the application running:



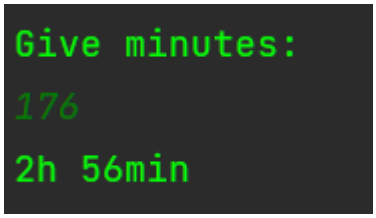
Filename of the exercise = ***exercise1_3.py***

Typical code amount ***: 5-7 lines*** *(empty lines/comments not included)*

4. Create an application that asks the user the amount of minutes as integers. Convert these minutes into hours and minutes. (for example: 90 minutes => 1 hour and 30 minutes)

   Print the hours and minutes on the same line! (remember the f-string!)

   Example of the application running:

   Filename of the exercise = ***exercise1_4.py***

   Typical code amount ***: 5-8 lines*** *(empty lines/comments not included)*

5. Create an application that prints the following table:

First name	Year of birth	Salary	Tax percentage
Matt	1970	2000	22.8
Maria	1980	2500	27.7
Bob	1990	1000	19.7

Example of the application running:

```
First name  Year of birth   Salary  Tax percentage
Matt        1970            2000    22.8
Maria       1980            2500    27.7
Bob         1990            1000    19.7
```

Note: Remember, you can write multiple tabs (\t) at the same time!

Filename of the exercise = ***exercise1_5.py***

Typical code amount ***: 4-6 lines*** *(empty lines/comments not included)*

Advanced exercises!

6. Create an application that asks the amount of money from the user as cents. The amount has to be between 1 and 100 cents.

   Calculate how many 50 cent, 20 cent, 10 cent, 5 cent, 2 cent and 1 cent coins this amount requires, if it was given as cash. Use the most valuable coins possible.

   Tip: Use divisions and remainders (the % -operator).

   Note! Use the same formatting style as the example below!

   Example of the application running:

```
How many cents? (1-100):
67
Amount of 50 cents: 1
Amount of 20 cents: 0
Amount of 10 cents: 1
Amount of 5 cents: 1
Amount of 2 cents: 1
Amount of 1 cents: 0
```

   Filename of the exercise = ***exercise1_6.py***

   Typical code amount ***: 14-22 lines*** *(empty lines/comments not included)*