Exercises Sequence

Exercise 1

Write a program that retrieves the user's personal data and then prints the address label.

```
surname: Peeters
first name: Jo
street: Kleinhoefstraat
number: 9
zip code: 2440
city: Geel
Jo Peeters
Kleinhoefstraat 9
2440 Geel
```

When printing, use the + operator and then try without the + operator.

Exercise 2

Write a program that allows a user to convert the results of a vote into percentages.

The user enters the number of Yes votes, the number of No votes and the number of blank votes.

The program shows the percentage of each type of vote.

```
How many people voted YES: 87
How many people voted NO: 62
Number of blank votes: 13
YES: 53.70370370370371%
NO: 38.2716049382716%
Blank: 8.024691358024691%
```

Exercise 3

Write a program that reads a 3-digit number and prints the following information.

Do not use string functions to find the separate digits.

```
Enter a three-digit number: 687
Half = 343.5
Double = 1374
Third power = 324242703
Tenfold = 6870
The digits are:
6
8
7
```

Exercise 4

Write a program to read 2 names and then change places in memory and print them again.

```
Enter the first name: Anne
Enter the second name: Marie
Before changing: Anne Marie
After changing: Marie Anne
```

Exercise 5

Write a program to convert an amount in Euro into Dollar. You first have to read the current exchange rate.

```
Enter the current exchange dollar rate (€-> $): 1.2324
Enter your amount in euro: 981
981.0 € =  1208.9844 $
```

Exercise 6

Write a program that allows you to repeat a word on the screen. You let the user choose a text and the number of times the text will be repeated.

```
Enter a number: 9
Enter a text: queen
9 times your text: queenqueenqueenqueenqueenqueenqueenqueenqueen
```

Exercise 7

Write a program to generate the next output. The number 15 is fixed. The other numbers should be calculated by using operators += -= *= etc. So use only 1 variable.

```
The starting number = 15
150
155
148
149
14900
7450
```

Exercise 8

Write a program that allows a user to know what time his alarm will go off when he indicates what time it is (only the hour is entered) and how long he wants to wait.

For example:

- It's 14:00 and he wants to wait 8 hours. the alarm will go off at 22:00
- It's 9:00 and he wants to wait 20 hours. the alarm will go off at 5:00

```
Enter the current hour: 21
How long do you want to wait: 305
The alarm will sound at 14h.
```

Exercise 9

Write a program that helps you calculate the number of degrees Fahrenheit (Tf) when you enter the temperature in degrees Celsius (Tc). Use this conversion formula between Tc and Tf :

$$T_{\mathrm{F}} = T_{\mathrm{C}} \cdot \frac{9}{5} + 32$$

```
Enter the number of degrees Celsius: 38.2
38.2 degrees Celsius = 100.76 degrees Fahrenheit
```

Exercise 10

Electricity companies charge their customers a fixed annual amount of € 83.6 (connection, meter rental, maintenance, ...).

At night you pay 0,035 € / kilowatt per hour. During the day you pay 0,068 €/ kilowatt per hour.

On top of that, the customer also has to pay 21% VAT.

Create a program that calculates how much you have to pay. First the customer has to enter his data (power consumption is always a whole number).

Then the customer gets an overview of his account.

```
Power consumption during the day (kilowatt per hour): 1024
Power consumption at night (kilowatt per hour): 860
Invoice
*******
Fixed costs: € 83.6
Daily consumption: € 69.632
Night consumption: € 30.1
Total excluding VAT: € 183.332
Total including VAT: € 221.83172
```