

Introduction to programming-python

Lab Practice 02: Data types

The goal of this practice session is to get the student familiar with python code and operators.

Program 1: Calculate average

Write a program to compute arithmetic average of two numbers. The program will request the values for both numbers. Then it will compute the average according to equation:

$$average = (x1 + x2)/2$$

Write the program in the computer, then compile and execute.

If the equation is written as:

$$average = (1/2)*(x1 + x2)$$

Is the result of the program correct? Why?

Program 2: Calculate price of products

Write a program to display the code number and the price for three products sold in a shop. The code is an integer value, and the price (in euro) is a floating point number.

Once the variables have been read, display them by means of the print function. The information must be formatted as a table, in the following way:

CODE	PRICE
123	27.35
123456	124.57
1234	5.00

In addition, store the sum of the prices of all items, and display such value on the screen.

Program 3: Temperature conversion

Write a program to convert a temperature from Fahrenheit to Celsius. In order to convert de temperature from Fahrenheit to Celsius, we can subtract 32 from degrees F and divide the result by 1.8. The general formula is:

$$F = (1.8) C + 32$$

Program 4: Read string

Write a program to ask the name and address of a client and display the information on the monitor.

Optional

1. Calculate age of a person

Write a program to calculate the age of a person. The program asks user to introduce the year of the birthdate and calculates the approximate age. Then, the program will display the age of the person on the monitor.

2. Calculate the sum of coins in Euro for exchange

Write a program to calculate the total value of coins in Euro. The program will ask user the number of 1-cent coins, 2-cent coins, 5-cent coins, 10-cent coins, 20-cent coins and 50-cent coins and then calculates the total value in Euros. The program has to create an output on the monitor to show the number of every coin type and the total value of the coins.