

1. Week no. 1

Objectives: Work with python. Get to know simple data types. Perform simple computations with simple data types. Enter and visualize data using keyboard and console. Use strings of characters.

1. Run IDLE (Python 3.5), type the line `print("hello world")`. Save the file as `E1_exercise1.py`, run the program.
2. Try the following program that visualizes some data types of python:

```
age = 20
price = 49.5
dni = "12345678Z"
message = "I've told him 'hi'"
fellowship = True
complex = 1.3 + 2.5j
print(age, price, dni, message fellowship, complex)
```

Modify the previous program changing the values of some of the variables and running it again on the console. Check that it is possible to change the type of a variable by simply assigning a value of a different type.

3. Write a program that performs the following operations:
 - a) Compute the mean value of two floating point numbers.
 - b) Show this mean value on the console.
 - c) To compute the final price of an article, assign to a variable a base price (neto) of, for instance, 100 euros, and to another variable the tax of 21%, compute the final price of the article as `base + tax`.
 - d) Show the price on the terminal.
 - e) Assign to a variable an age, and in another variable store whether the age stands for an adult or not.
 - f) Show the result on the terminal.
 - g) Compute the rest that remains by an integer division, show it on the terminal.
 - h) Compute some exponential of a value and visualize its value.
4. The following program asks the user to enter the radius of a circle using the keyboard and then calculates its area:

```
r = float(input("Circle radius: "))
a = 3.1416*r**2
print("Area: " + str(a))
```

Write a similar program that asks for the base price (without taxes) of a ticket for the cinema, and then calculates the prices applying 10% and 21% VAT. Estimate the savings due to the reduction of tax rates.