First steps

Objectives: Work with python. Get to know simple data types. Perform simple computations with simple data types. Introduce and visualize data using keyboard and terminal. Use character strings.

1. Execute IDEL (Python 3.5), write the command `print("hello world")`. Save the file as `E1_exercise1.py`, execute the program.

2. Try the following program that visualizes some data types of python:

```
age = 20
price = 49.5
dni = "12345678Z"
fellowship = True
complex = 1.3 + 2.5j
print(age, price, dni, fellowship, complex)
```

   Modify the previous program changing the values of some of the variables and revisualize on the terminal. 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 terminal.
   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.
   i) Assign in one python command both the weight and the height to the corresponding variables. Visualize on screen.

4. The following program shows some examples how python treats character strings (text). Analize the syntax and usage of the different operators and functions.

```
url_school = "aero.uvigo.es"
print(url_school[2])
print(url_school[5:10])
user = "formella"
```

```
domain = "uvigo.es"
print(user + "@" + domain)
line = 80 * "-"
print(line)
dni = "12345678Z"
print(len(dni))
code = "OU-" + str(32000)
print(code)
print(code.lower())
city = "Ourense"
print(city.upper())
print(url_school.split("."))
print(url_school.split(".")[1])
print(url_school.find("."))
print(url_school.replace("."," "))
```

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5. Complete the following program to calculate the letter of a dni:

```
letterset_dni = "TRWAGMYFPDXBNJZSQVHLCKE"
dni = ..............
posicion = dni%23
letter_dni = .........
NIF = ..............
print("NIF = ",NIF)
```

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6. Write a python program that asks for a value in degrees Fahrenheit and shows the value converted to degrees Celsius. You should use the following formula: `degrees_celsius = ( degrees_fahrenheit - 32 ) / 1.8`
7. Write a python program that reads-in a first name, a name, and a dni of a person and outputs the data on the terminal.
8. Modify the previous program such that it uses the format method.
9. Write a python program that reads-in a first name and name and generates (and visualizes) the corresponding email address where the address is built by the initial followed by the second name (assuming spanish naming conventions) and ended by `@alumnos.uvigo.es`.
10. Write a python program that reads-in the coordinates x and y of a point and visualizes them in the format (x, y) on screen.
11. Write a python program that computes the distance between two points.
12. Write a python program that computes the circumference and the area of a circle given its radius,