Homework #2

It is VERY important for you to complete your homework. Our 45-minute meeting once a week is not enough to make good progress if you do not practice at home. Please, complete your homework and submit on Edmode BEFORE 9:00 pm on Saturday.

Instructions:

Create a new Python script file and name it *yourlastname_homework2.py*, where *yourlastname* is your last name. For me, it would be *Smirnov_homework2.py*. Save your file in your homework folder on your computer (a folder that you can easily find).

To answer the questions below, you will need to write some Python code. Save all your Python code in *yourlastname_homework2.py.* I should be able to run your **complete** code without errors.

When finished, upload your file on Edmodo. (To remind you, go to the assignment page, click on the "Attach" button and choose "File from Computer" option. Find *yourlastname_homework2.py*, attach, and upload). If for whatever reason, you cannot submit your file on Edmodo, you should still complete your homework and save the file on your computer.

Note on comments: you can add comments to your script using # symbol. For example: # this is a comment. Python will ignore everything after the # symbol.

Questions/tasks:

1) Create a string variable called *name* and assign your real name as the value. For example, for me it would be: *name* = "Oleg Smirnov"

2) Create a integer variable called *year* and assign your birth year as the value. Create a integer variable called *day* and assign you birth day as the value (for example, if you were born on 17th, then *day* = 17).

3) Create an integer variable called *month* and assign your birth month's number as the value. (1 for January, 2 for February, and so on).

4) What is the data type of *name*? Verify this in your Python script using type() function.

5) What is the data type of *year*? Verify in Python.

6) What is the data type of *year/month*? (Year divided by month). Verify.

7) What is the data type of *year*/1 (Year divided by one). Verify.

8) What is the data type of *year* * 1 (Year multiplied by one). Verify.

9) What is the data type of *month* + *month*? Verify.

10) What is the data type of *month* + *month*/1? Verify?

11) What is the value of *name* + *name*? What is the data type?

12) What is the value of *name* * *month*? What is the data type?

13) Can you find a value of *name* * *month* if *month* is a float? (To do that you first need to convert your *month* variable to the float data type).

14) What is the data type of int(float(string(year)))?

15) What is the data type of float(int(string(year)))?

16) What is the data type of string(int(float(year)))?

17) A variable of a Boolean data type can either be "True" or "False". What is the data type of bool(year)?

18) What is the data type of bool(str(year))?

19) Create a string variable which is equal to the value of Pi (3.14159). How do you transform it into a float variable? Can you transform it into an integer variable: (a) directly from string to integer, (b) indirectly, from string to float and then from float to integer? Can you do it using a single line of code?

20) Take a closer look at question #12. Using *day*, *month*, and *year* variables, how do you create your *birthdate* string variable that looks like this "9/17/2010", for example. (Hint, one of the possible solutions would involve using another string variable equal to "/").

21) Create a new string variable called *profile* that looks something like this: "Max Power, 9/17/2010" – where "Max Power" is your first and last name, and "9/17/2010" is your *birthdate* variable. Notice, there is a comma and space that separate the *name* and the *birthdate*.

22) Convert your birthday *month* to a Boolean value? Is it True or False?

23) Can your *name* string file be converted to a Boolean? Is it True or False?

24) What could be the value of a variable that is equal to False when converted to a Boolean? (Try different values in the interactive window, see if you find one or two). Verify in your code.

25) What is the value of bool(*var*) if *var* = False? Change the data type of *var* to something for the bool(*var*) to be **True**.