Practical

Arguments and user input

1. Create the script **problem1.py**, create variables **name** and **last_name** and assign those 2 inputs given by the user (using the input() function). Then print the inputted values in the following format:

   Name: your **name** variable value
   Last Name: your **last_name** variable value

   Note: Give an appropriate text input to the function input() to make it easier for a user to understand what s/he is supposed to give as an input.

2. Create the script **problem2.py**, create variables **num1** and **num2** and assign those 2 inputs given by the user (using the input() function). Calculate the sum of the values stored in **num1** and **num2** and store the result in a variable **sum.** Print the result in the following format:

   First number: your **num1** variable value
   Second number: your **num2** variable value
   Sum: your **sum** variable value

   Note: The output of the function input() is of type String.

3. Create the script **problem3.py**, create a variable **age** and assign it an input given by the user (using the input() function). Then print the inputted value in the following format, using the value of the variable **age**:

   Happy Birthday, you are already **age** years old!

4. Create the script **problem4.py,** create a variable **text** and assign it an input given by the user (using the input() function). Print all-lowercase and all-uppercase versions of the **text** in the following format:

   The given string: **A sAmpLe stRING.**
   All lowercase: **a sample string**.
   All uppercase: **A SAMPLE STRING**.

Working with Strings

5. Create the script **problem5.py,** get some text of type String as a user input (using the function input()) and store the text in the variable **text1**. Count how many times the letters a, b, c, d, and e appear in **text1** and print the results in the following format:

   The given text: **abbbbbaaaaaaaeaa**
   # of a: 10
   # of b: 5
   # of c: 0
   # of d: 0
   # of e: 1

6. Create the script **problem6.py,** create a variable **str1** of type String and assign it the value “How are you John?”. Then create a variable **name** of type String and assign it your name as a value.
   Create a new variable **str2** of type String and do some String manipulations to give it a value “How are you **name**?”, using the value of the variable **name.** Create the variable **str2** in 2 different ways:
   1) Using a substring of the string **str1** and connecting it to the variable **name**
   2) Replacing the value John in **str1** with the value of the variable **name** using the appropriate function

7. Create the script **problem7.py,** create a variable **country** of type String and assign it the value “Armenia”. Then create a variable **years** of type Int and assign it 10 as a value. Print the following text using the values of the variables **country** and **years:**

   Hi, where are you from?
   I’m from **country**
   How long have you lived here?
   For **years** years

8. Create the script **problem8.py,** create variables **text, start_index** and **end_index** and assign those 3 inputs given by the user (using the input() function). Print the substring of the string **text** between the indexes **start_index** and **end_index** in the following format**:**

   The given text: Thisisasampletext.
   Start index: 3
   End index: 11
   Output string: sisasamp

Date and time

9. Create the script **problem9.py**,
    1) Import **datetime, time** and **calendar** modules
    2) Print on separate lines:
        a) Current date and time (example: 2014-09-26 16:34:40.278298)
        b) The value of the current year (example: 2014)
        c) The value of the current month (example: 9)
        d) The value of the current day of the week (example: 4 or 5 i.e. Friday)
    3) Subtract 5 days from the current date and time and print the result (example: 2014-09-21 16:34:40.278298)
    4) Add 5 days from the current date and time and print the result (example: 2014-10-01 16:34:40.278298)

Homework

(optional) Problem 1. (argparse module)

Create the script **problem1.py,** create variables **num_y** (the number of years, int) and **num_d** (the number of years, int) and assign those 2 inputs given by the user (using the input() function). Print the current date and time + **num_y** + **num_d** (using the timedelta function), taking into consideration that the output of the function input() is of type String. Example of the output:

Current date: 2019-08-17 13:57:28.13050
Given years: 2
Given days: 0
Final date: 2021-08-17 13:57:28.13050

(optional) Problem 2.

Create the script **problem2.py,** create a variable **text** and assign it an input given by the user (using the input() function). The value inputted by the user should be 7 or more characters long and should have an odd number of characters. Print the middle 3

characters of the **text**, as well as create and print the new version of the string **text**, where the middle 3 characters are uppercase, in the following format:

The old string: abcdefghijk
Middle 3 characters: efg
The new string: abcdEFGhijk

Problem 3.

Create the script **problem3.py,** create variables **text, first_word** and **second_word** and assign those 3 inputs given by the user (using the input() function). Print the new version of the given **text,** replacing all the occurrences of the **first_word** in **text** with the **second_word** in the following format:

The given text: This text is a sample text.
First word: text
Second word: image
Output string: This image is a sample image.

Problem 4.

Create the script **problem4.py**, create a variable **text** and assign it an input given by the user (using the input() function). Find the number of occurrences of the words “USA” or “usa” in the text, as well as replace all the occurrences of the words with the word “Armenia”. Print the results in the following format:

The given string: Welcome to USA. usa is awesome, isn’t it?
The USA/usa count is: 2
The new string: Welcome to Armenia. Armenia is awesome, isn’t it?

(optional) Problem 5.

Create the script **problem5.py**,

1) Import **datetime, time** and **calendar** modules
2) Print on separate lines`:
    a) The date of your birthday
    b) The year of your birthday (using the appropriate function on the date of your birthday)
    c) The month of your birthday (using the appropriate function on the date of your birthday)

    d) The day of your birthday (using the appropriate function on the date of your birthday)
    e) Find and print the weekday of your birthday
    f) Find and print how many days are left till your upcoming birthday

3) Print the calendar of May 2017

4) Print yesterday's date and time
    a) Add 2 days to yesterday's date and time and print the result
    b) Subtract 3 days from yesterday's date and time and print the result