Python Lab - Running Python, Basic Syntax

You are now ready to start writing Python programs.

Note, you can create a .py file and execute it by running the following command from the command terminal:

    python myfile.py

You should create a new .py file for each exercise.

The following exercises will help you learn some of the basics of Python syntax.

1. Write a Hello World program in Python (i.e., a program that prints "Hello World" to screen).

2. Write a program to print the shopping list of five items to the screen (one per line).

    To buy:
    ****
    Bread
    Milk
    Tea
    Eggs

3. Write a program to print the following to screen

    I can't afford to buy that car.
    I don't have the money.
    It has A/C and P/S.

4. Write a Python statements that print the result of the following to screen:

    a. The sum of 7 positive integers
    b. The average age of three peopled aged 65, 15, and 45
    c. The number of times 61 goes into 4356
    d. The remainder when 4356 is divided by 61
    e. 2 to the 20th power
    f. The lowest price among the following 34.99, 29.95, and 31.50

5. Write the corresponding Python statements:

    a. Assign 6 to a variable a and 7 to variable b
    b. Assign to variable c the average of variables a and b
    c. Assign the variable inventory to a list containing Strings 'paper', 'staples', and 'pencils'.

6. Write Boolean expressions corresponding to the following:

   a. The sum of 17 and -9 is less than 10
   b. The sum of 8 and 23 and not less than 100 or 87

7. Write a program that takes a String input from the user and prints that input on screen.

8. Write a program that that takes a number as input and prints the square of that number on screen.

9. What is the type of the object that these expressions evaluate to

   a. False + False
   b. 2 * 3 ** 2.0
   c. 4 // 2 + 4 % 2
   d. 2 + 3 == 4 or 5 >= 5

10. Write a program that prints out each character in a given String on a new line. For example:

    P
    Y
    T
    H
    O
    N

11. Write a program that prints out each character in a given String on a new line in reverse order. For example:

    N
    O
    H
    T
    Y
    P

12. Write a program that starts with the following String variable:

    s = "0123456789"

    Using String indexing, print the 3rd and 5th characters

13. Write a program that takes a 8 character word, e.g., MYPYTHON and prints the following using slicing (i.e., [:])

    a. 3rd and 4th characters
    b. 1st to 5th characters
    c. 4th to last characters

14. Write a program that takes two numbers (x and y) as input from the user. The program should calculate and print the sum (s) and product (p) of the numbers in the following format

    The sum of the numbers x and y is s
    The product of the numbers x and y is p

15. Write a program that determines each digit of a four-digit number. The program should use a single print statement and print the output in the following format (using 1234 as an example)

    The digits in the number 1234 are:
    1
    2
    3
    4

16. Write a program that computes and displays the number of seconds in a year. You may assume the year is not a leap year.