tekomoro

Python - LAB

Python Installation

Website: https://www.python.org/downloads/

You will find The steps here for windows:
https://phoenixnap.com/kb/how-to-install-python-3-windows
http://www.howtogeek.com/197947/how-to-install-python-on-windows/

You will find The steps here for Ubuntu:
https://phoenixnap.com/kb/how-to-install-python-3-ubuntu

Python Assignments

1) Write a python code that ask the user to enter his birth year and then print his age in years.

```
Please enter your birth year: 23
You are 1997 Years Old
```

2) Write a python code to find Sum and Average of N Natural Numbers

```
Please Enter any Number: 50
The Sum of Natural Numbers from 1 to 50 =  1275
Average of Natural Numbers from 1 to 50 =  25.5
```

3) Pyramid Pattern with Stars

```
Please enter pyramid Hieght: 5
    *
   ***
  *****
 *******
*********
```

4) Python Program to Check Even or Odd

```
Enter 'q' for exit.
Enter any number: 4
4 is an even number.
```

5) Remove Vowels from String

```
Enter 'q' for exit.
Enter any string to remove all vowels from it: Mesbah
New string after successfully removed all the vowels:
Msbh
```

6)Write a Python program to write a list to a file.

7)Write a Python function to sum all the numbers in a list

```
print(sum((2, 6, 7, 9, 0)))
```

8) Write a Python program to print the even numbers from a given list.

```
print(is_even_num([3, 9, 5, 4, 5, 18, 7, 18,19]))
```

Output : [4, 18, 18]

9)Write a Python class which has two methods get_String and print_String. get_String accept a string from the user and print_String print the string in upper case.

```
mesbah
MESBAH
```

10) Write a python class to calculate the average speed, distance travelled and the trip duration of a vehicle: car, bus, train, bike, motorcycle, plane etc. constructed by a Distance (Km) and Time(H) and a method which will compute the speed of a car.

11) Write a NumPy program to create a 3x3 matrix with values ranging from 2 to 10.

Expected Output:
[[2 3 4]
[5 6 7]
[8 9 10]]

12) Write a NumPy program to remove the negative values in a NumPy array with 0

Expected Output:
Original array:
[-1 -4 0 2 3 4 5 -6]
Replace the negative values of the said array with 0:
[0 0 0 2 3 4 5 0]

13) Write a NumPy program to partition a given array in a specified position and move all the smaller elements values to the left of the partition, and the remaining values to the right, in arbitrary order.

Original array:
[70 50 20 30 -11 60 50 40]
After partitioning on 4 the position:
[-11 30 20 40 50 50 60 70]

14) Write a program that repeatedly prompts a user for integer numbers until the user enters 'done'. Once 'done' is entered, print out the largest and smallest of the numbers. If the user enters anything other than a valid number catch it with a try/except and put out an appropriate message and ignore the number. Enter 7, 2, bob, 10, and 4 and match the output below.

```
Enter a number: 7
Enter a number: 2
Enter a number: bob
Invalid input
Enter a number: 10
Enter a number: 15
Enter a number: 55
Enter a number: done
Maximum is 55
Minimum is 2
```

15) Write a program that prompts for a file name, then opens that file and reads through the file, and print the contents of the file in upper case. Use the file words.txt to produce the output below.

```
Enter file name: abc.txt
MO
GREEN
WHITE
BLACK
PINK
YELLOW
```

16) Open the file mbox-short.txt and read it line by line. When you find a line that starts with 'From ' like the following line:
From stephen.marquard@uct.ac.za Sat Jan 5 09:14:16 2008
You will parse the From line using split() and print out the second word in the line (i.e. the entire address of the person who sent the message). Then print out a count at the end.
Hint: make sure not to include the lines that start with 'From:'.

```
stephen.marquard@uct.ac.za
louis@media.berkeley.edu
zqian@umich.edu
rjlowe@iupui.edu
zqian@umich.edu
rjlowe@iupui.edu
cwen@iupui.edu
cwen@iupui.edu
gsilver@umich.edu
gsilver@umich.edu
zqian@umich.edu
gsilver@umich.edu
wagnermr@iupui.edu
zqian@umich.edu
antranig@caret.cam.ac.uk
gopal.ramasammycook@gmail.com
david.horwitz@uct.ac.za
david.horwitz@uct.ac.za
david.horwitz@uct.ac.za
david.horwitz@uct.ac.za
stephen.marquard@uct.ac.za
louis@media.berkeley.edu
louis@media.berkeley.edu
ray@media.berkeley.edu
cwen@iupui.edu
cwen@iupui.edu
cwen@iupui.edu
There were 27 lines in the file with From as the first word
```