BASICS OF PYTHON

Assignments Questions List

1. Write a Python program which accepts a sequence of comma-separated numbers from user and generate a list and a tuple with those numbers.

Sample data : 3, 5, 7, 23
Output :
List : ['3', ' 5', ' 7', ' 23']
Tuple : ('3', ' 5', ' 7', ' 23')

2. Write a Python program to display the first and last colors from the following list. color_list = ["Red","Green","White" ,"Black"]

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

Sample List : [1, 2, 3, 4, 5, 6, 7, 8, 9]
Expected Result : [2, 4, 6, 8]

Module

1. Write a Python program to calculate number of days between two dates. Hint: use Datetime package/module.

Sample dates : (2014, 7, 2), (2014, 7, 11)
Expected output : 9 days

Functions

1. Write a Python program to get the volume of a sphere with radius 6.

2. Write a Python program to calculate the sum of three given numbers, if the values are equal then return three times of their sum hint: write User defined functions

3. Write a Python program to count the number 4 in a given list.
   List = [1,4,6,8,4,9,4]
4. Write a Python program to print all even numbers from a given numbers list in the same order and stop the printing if any numbers that come after 237 in the sequence. Go to the editor
   Sample numbers list : 399, 162, 758, 219, 918, 237, 412, 566, 826, 248, 866, 950, 626, 949, 687, 217, 815, 67, 104, 58, 512, 24, 892, 894, 767, 553, 81, 379, 843, 831, 445, 742, 717, 958,743, 527]

5. Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700 (both included)

6. Write a Python program that prints all the numbers from 0 to 6 except 3 and 6.
   Note : Use 'continue' statement.
   Expected Output : 0 1 2 4 5

7. Write a Python program to get the Fibonacci series between 0 to 50.
   Note : The Fibonacci Sequence is the series of numbers :
   0, 1, 1, 2, 3, 5, 8, 13, 21, ...
   Every next number is found by adding up the two numbers before it.
   Expected Output : 1 1 2 3 5 8 13 21 34

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9. Write a Python function that takes a list and returns a new list with unique elements of the first list.
   Sample List : [1,2,3,3,3,3,4,5]
   Unique List : [1, 2, 3, 4, 5]

Strings

1. Write a Python program to concatenate all elements in a list into a string and return it.

Dictionary

1. Write a Python script to concatenate following dictionaries to create a new one.
   Sample Dictionary :
   dic1={1:10, 2:20}
   dic2={3:30, 4:40}
   dic3={5:50,6:60}
   Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Series

1. Write a Python program to add, subtract, multiple and divide two Pandas Series.
   Sample Series: [2, 4, 6, 8, 10], [1, 3, 5, 7, 9]

DataFrame

1. Write a Pandas program to select the specified columns and rows from a given data frame. Go to the editorSample Python dictionary data and list labels:
   Select 'name' and 'score' columns in rows 1, 3, 5, 6 from the following data frame.
   exam_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael',

   'Matthew', 'Laura', 'Kevin', 'Jonas'],

   score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],

   attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],

   qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}

   labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']

   Expected Output:

   Select specific columns and rows:

   name score

   b Dima 9.0

   d James NaN

f Michael 20.0

g Matthew 14.5

2. Use Crime dataset from LMS
    a. find the aggregations like all moments of business decisions for all columns,value counts.
    b. do the plottings like plottings like histogram, boxplot, scatterplot, barplot, piechart,dot chart.
3. use mtcars dataset from LMS
    a. delete/ drop rows-10 to 15 of all columns
    b. drop the VOL column
    c. write the forloop to get value_counts of all cloumns
4. Use Bank Dataset from LMS
    a. change all the categorical columns into numerical by creating Dummies and using label encoder.
    b. rename all the column names DF
    c. Rename only one specific column in DF
5. After doing all the changes in bank data(Q19). save the file in your directory in Csv Format.

Basic Programs

1. Write Python Programs to use various operators in Python
2. Create list of elements and slice and dice it
3. Using while loop accept numbers until sum of numbers is less than 100
4. Write a python program Read & write Excel files
5. Write a python program to scrape reviews from a commercial web site
6. Create a 3x3 matrix with values ranging from 2 to 10 using numpy
7. Write a Python program to convert a list of numeric value into a one-dimensional NumPy array
8. "Write a Python program to create a null vector of size 10 and update sixth value to 11.