**Python training Feb 22nd, 2018 batch assignment 1**

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QUESTION: 01 Make a list called things with these three strings as elements: “table” , “chair” and “sofa”. Capitalize the element in the things list.

Solution:

* things=["table","chair","sofa"]
* print things
* capitalized=[i.capitalize() for i in things]
* print capitalized

QUESTION: 02 Create a list called surprise with the element “happy”, “sad”, “emotions”. Lowercase the last element of the list, reverse it, and then capitalize it.

Solution:

* surprise=["happy","sad","emotions"]
* print "\nOriginal list is:", surprise
* surprise[-1]=surprise[-1].lower()
* print "\nList after implementing lowercase on last element:", surprise
* surprise=list(reversed(surprise))
* print "\nList after reversing:", surprise
* surprise=[i.capitalize() for i in surprise]
* print "\nList after capitalize:", surprise

QUESTION: 03 Define a function called name that returns the list [‘Harry’, ’tom’, ’jerry’].

Solution:

def name():

names=['Harry']

names.append('tom')

names.append('jerry')

return names

namelist=name()

print namelist

QUESTION: 04 Define a generator function called odd\_value that returns the odd numbers from range (10). Use for loop to find and print the third value returned.

Solution:

odd\_gen = (x for x in range(10) if x % 2)

for i, v in enumerate(odd\_gen):

if i == 2:

print "\nThird odd number is:" , v

QUESTION: 05 Assign the string ‘This is an innovation with python training’ to the variable test1, and write test1 to a file called test.txt.

Solution:

* test1="This is an innovation with python training"
* file=open("test.txt","w")
* file.write(test1)
* file.close()

QUESTION: 06 Open the file test.txt (QUESTION 6) and read its contents into the string test2. Are test1 and test2 the same?

Solution:

* file=open('test.txt','r')
* test2=file.read()
* print test2
* file.close()

QUESTION: 07 Create a file called time.py. In it, define a function called hours ( ) that prints the string ‘Time is precious’. Then, use interactive interpreter to import the zoo module and call its hours ( ) function.

Solution:

def hours():

print "Time is precious!"

>>> import tim

>>> tim.hours()

Time is precious!

QUESTION: 08 Write the logic to print first 10 numbers of Fibonacci series, add last three numbers from the series and store them into the variable called result.

Solution:

f1 = 0

f2 = 1

series=list()

n=int(input("Enter number till which series to be printed: "))

if (n > 0):

for x in range(0, n):

series.append(f2)

next = f1 + f2

f1 = f2

f2 = next

print "The Fibonacci series till the value entered is:", series

else:

print "Please enter a positive number!!"

sum=0

i=-1

if len(series)>=3:

while i>-4:

sum =sum+series[i]

i=i-1

print "Sum of last three values in the series = ", sum

else:

print "Sum cannot be displayed as the series contains less than three elements."

QUESTION: 09 Find out the common character from the two different string using set.

Solution:

first=raw\_input("Please enter first string:")

second=raw\_input("Please enter second string:")

set\_result = set.intersection(set(first), set(second))

print set\_result

common = set([c for c in first if c in second])

print common

QUESTION: 10 Create a file with contents:

Man lives on Land

Fish lives in Water

Crow lives on trees

Monkey lives on trees

Dolphin lives in Water

Cow lives on Land

Read this file line by line and create a dictionary with the words in this file and their respective count values and print it

Solution:

with open('Question10.txt') as f:

words = f.read()

wordfreq = {}

for word in words.replace(',', ' ').split():

wordfreq[word] = wordfreq.setdefault(word, 0) + 1

print wordfreq

QUESTION: 11 Write a program which takes numbers as input from users and print count, maximum, minimum, sum and average of numbers. Use list to store these numbers. If user enters anything other than a number (except when user enters quit, quit the program and display the results) then catch the exception using try/except and warn the user and then continue the program until the user enters quit.

For Ex:

Give a number: 3

Give a number: 5.0

Give a number: hi

Only numbers are allowed.

Give a number: quit

Results:

Maximum = 5.0

Minimum = 3

Sum = 8.0

Average = 4.0

Solution:

numbers=list()

status=True

while status is True:

entry=raw\_input("Give a number:")

if entry!="quit":

try:

number=float(entry)

numbers.append(number)

except:

print "Please enter number or quit to exit."

elif entry =="quit":

print "\nList of numbers entered is: ",numbers

maximum=max(numbers)

print "\nResults:\nMaximum in the numbers entered is:",maximum

minimum=min(numbers)

print "Minimum in the numbers entered is:",minimum

total=sum(numbers)

print "Sum of all the numbers entered is:",total

average=total/len(numbers)

print "Average of all the numbers entered is:",average

status=False

QUESTION: 12 Write a script to concatenate following dictionaries to create a new one.

Sample Dictionary:

dic1= {1:’a’, 2:’b’}

dic2= {3:’c’, 4:’d’}

dic3= {5:’e’, 6:’f’}

Expected Result: {1: ‘a’, 2: ‘b’, 3: ‘c’, 4: ‘d’, 5:’e’ , 6: ‘f’}

Solution:

dic1= {1:'a', 2:'b'}

dic2= {3:'c', 4:'d'}

dic3= {5:'e', 6:'f'}

dic4 = dic1

dic4.update(dic2)

dic4.update(dic3)

print dic4

QUESTION: 13 Write a program to convert speed in km/hr to m/s. Use raw\_input() to take input(speed in km/hr) from the user. Use try and except so that your program handles non-numeric input gracefully by printing a message and exiting the program.

Solution:

conv\_fac = 0.621371

try:

kilometers = float(raw\_input("Enter value in kilometers: "))

miles = kilometers \* conv\_fac

print('\n%0.2f kilometers is equal to %0.3f miles.\n' %(kilometers,miles))

except:

print "Please enter number values for conversion"

QUESTION: 14 Write a script that read the sentence and gives the output as the length of each word in a sentence in the form of a list data structure. – HINT (Use map)

Solution:

text=str(raw\_input("Enter a sentence: "))

wordlist=list()

words = text.split()

for word in words:

print(word)

lengths=map(len,words)

print lengths

Complete the quiz “ http://www.techbeamers.com/best-python-programming-online-test/ ”.

