**PYTHON CYCLE 2**

1. Familiarizing Text Editor, IDE, Code Analysis Tools etc // Use any IDE like PyCharm,

PyDev…

2. Display future leap years from current year to a final year entered by user.

**OUTPUT**

3. List comprehensions:

(a) Generate positive list of numbers from a given list of integers

(b) Square of N numbers

(c) Form a list of vowels selected from a given word

(d) List ordinal value of each element of a word (Hint: use ord() to get ordinal values)

**OUTPUT**

4. Count the occurrences of each word in a line of text.

**OUTPUT**

5. Prompt the user for a list of integers. For all values greater than 100, store ‘over’ instead.

**OUTPUT**

6. Store a list of first names. Count the occurrences of ‘a’ within the list

**OUTPUT**

7. Enter 2 lists of integers. Check

(a) Whether list are of same length

(b) whether list sums to same value

(c) whether any value occur in both

**OUTPUT**

8. Get a string from an input string where all occurrences of first character replaced with

‘$’, except first character. [eg: onion -> oni$n]

def change\_char(str1):

   str1 = input("Enter a string : ")

   char = str1[0]

  str1 = str1.replace(char, '$')

  str1 = char + str1[1:]

  return str1

print(change\_char('str1'))

**OUTPUT**

Enter a string : restart

resta$t

9. Create a string from given string where first and last characters exchanged.

[eg: python -> nythop]

str = input("Enter a string : ")

new\_str = str[-1:] + str[1:-1] + str[:1]

print(new\_str)

**OUTPUT**

Enter a string : colab

bolac

10. Accept the radius from user and find area of circle.

from math import pi

r = float(input ("Input the radius of the circle : "))

print ("The area of the circle : " + str(pi\*r\*r))

**OUTPUT**

Input the radius of the circle : 2

The area of the circle : 12.566370614359172

11. Find biggest of 3 numbers entered.

a = float(input("Enter first number: "))

b = float(input("Enter second number: "))

c = float(input("Enter third number: "))

  if (a > b) and (a > c):

    largest = a

elif (b > a) and (b > c):

    largest = b

else:

    largest = c

  print("The largest number is",largest)

**OUTPUT**

Enter first number: 5

Enter second number: 15

Enter third number: 10

The largest number is 15.0

12. Accept a file name from user and print extension of that.

fname = input("Input the Filename: ")

f\_ext = fname.split(".")

print ("The extension of the file is : " + repr(f\_ext[-1]))

**OUTPUT**

Input the Filename: sample.java

The extension of the file is : 'java'

13. Create a list of colors from comma-separated color names entered by user. Display

first and last colors.

color\_list = []

for i in range(5):

    print("Enter value of n[", i, "]")

    color\_list.append(input())

print(color\_list)

print( "First Color : %s"%(color\_list[0]))

print( "Last Color  : %s"%(color\_list[-1]))

**OUTPUT**

Enter value of n[ 0 ]

Red

Enter value of n[ 1 ]

Green

Enter value of n[ 2 ]

Yellow

Enter value of n[ 3 ]

Blue

Enter value of n[ 4 ]

White

['Red', 'Green', 'Yellow', 'Blue', 'White']

First Color : Red

Last Color : White

14. Accept an integer n and compute n+nn+nnn.

a = int(input("Input an integer : "))

n1 = int( "%s" % a )

n2 = int( "%s%s" % (a,a) )

n3 = int( "%s%s%s" % (a,a,a) )

print (n1+n2+n3)

**OUTPUT**

Input an integer : 1

123

15. Print out all colors from color-list1 not contained in color-list2.

c\_list\_1 = set(["Yellow", "Black", "Blue","Red"])

c\_list\_2 = set(["Red", "Green","Blue"])

print(c\_list\_1.difference(c\_list\_2))

**OUTPUT**

{'Yellow', 'Black'}

16. Create a single string separated with space from two strings by swapping the

character at position 1.

def ch\_swap(a, b):

new\_a = b[:2] + a[2:]

   new\_b = a[:2] + b[2:]

   return new\_a + ' ' + new\_b

print(ch\_swap('abc', 'xyz'))

**OUTPUT**

xyc abz

17. Sort dictionary in ascending and descending order.

import operator

d = {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}

print('Original dictionary : ',d)

sorted\_d = sorted(d.items(), key=operator.itemgetter(1))

print('Dictionary in ascending order  : ',sorted\_d)

sorted\_d = dict( sorted(d.items(), key=operator.itemgetter(1),reverse=True))

print('Dictionary in descending order  : ',sorted\_d)

**OUTPUT**

Original dictionary : {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}

Dictionary in ascending order : [(0, 0), (2, 1), (1, 2), (4, 3), (3, 4)]

Dictionary in descending order : {3: 4, 4: 3, 1: 2, 2: 1, 0: 0}

18. Merge two dictionaries.

d1 = {'a': 100, 'b': 200}

d2 = {'x': 300, 'y': 200}

d = d1.copy()

d.update(d2)

print(d)

**OUTPUT**

{'a': 100, 'b': 200, 'x': 300, 'y': 200}

19. Find gcd of 2 numbers.

import math

a = int(input("Enter 1st number: "))

b = int(input("Enter 2nd number: "))

c = math.gcd(a,b)

print("GCD is =",c)

**OUTPUT**

Enter 1st number: 15

Enter 2nd number: 3

GCD is = 3

20. From a list of integers, create a list removing even numbers.

list = [11, 22, 33, 44, 55]

print("Original list:")

print(list)

for i  in list:

   if(i%2 == 0):

      list.remove(i)

print("list after removing EVEN numbers:")

print (list)

**OUTPUT**

Original list:

[11, 22, 33, 44, 55]

list after removing EVEN numbers:

[11, 33, 55]