**PYTHON CYCLE 2**

1. Print your address

def personal\_details():

     name = "Sandra Santhosh"

address = "Chollambel(H),Koothattukulam P.O,Koothattukulam,Ernakulam,India"

    print("\n Name: {}\n Address: {}".format(name, address))

personal\_details()

**OUTPUT**

Name: Sandra Santhosh

Address: Chollambel(H),KoothattukulamP.O,Koothattukulam,Ernakulam,India

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

y = int(input("enter final leap year"))

print("future leap year from 2021")

for x in range (2021 , y+1):

   if ((x%4 == 0) and (x%100 != 0)):

     print(x)

**OUTPUT**

enter final leap year2046

future leap year from 2021

2024

2028

2032

2036

2040

2044

3. List comprehensions:

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

list1 = [-10,11, -21, 20, 45, 66, -93]

list2 = [x for x in list1 if x>0]

print("list of positive integers:", list2)

**OUTPUT**

list of positive integers: [11, 20, 45, 66]

(b) Square of N numbers

n = int(input("Enter the limit: "))

squares = [i\*i for i in range (1, n+1) ]

print("Square of the numbers: ", squares)

**OUTPUT**

Enter the limit: 4

Square of the numbers: [1, 4, 9, 16]

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

n1= "Square of N numbers"

vowels =['a','e','i','o','u']

l1=[]

for x in n1:

   if(x in vowels and x not in l1):

     l1.append(x)

print("vowels present in the given statement",l1)

**OUTPUT**

vowels present in the given statement ['u', 'a', 'e', 'o']

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

n1=input("enter a word:")

for l in range(len(n1)):

   print("ordinal value of",n1[l],"is",ord(n1[l]))

**OUTPUT**

enter a word:Sandra

ordinal value of s is 115

ordinal value of a is 97

ordinal value of n is 110

ordinal value of d is 100

ordinal value of r is 114

ordinal value of a is 97

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

def wordcount(str):

   counts = {}

   words = str .split()

   for word in words:

     if word in counts:

      counts[word] += 1

     else :

      counts[word] = 1

   return counts

print( wordcount('the quick brown fox jumps over the lazy dog'))

**OUTPUT**

{'the': 2, 'quick': 1, 'brown': 1, 'fox': 1, 'jumps': 1, 'over': 1, 'lazy': 1, 'dog': 1}

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

x=[]

n=int(input("enter any integers :"))

for i in range(1,n+1):

   a=int(input())

   if (a>100):

     x.append('over')

   else:

     x.append(a)

print("modified list :" ,x)

**OUTPUT**

enter any integers :5

25

50

75

100

125

modified list : [25, 50, 75, 100, 'over']

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

n =input("Enter the first names:")

list = []

count = 0

for x in n:

   list.append(x)

  if(x in n and x == 'a'):

    count = count + 1

print(count)

**OUTPUT**

Enter the first names:sanoj,sanasya,sandra

6

7. Enter 2 lists of integers. Check

(a) Whether list are of same length

list1 = [1, 2, 5, 8, 3]

list2 = [1, 2, 5, 8, 9]

print("The first list is : " + str(list1))

print("The second list is :" + str(list2))

l1 = len(list1)

l2 = len(list2)

print("Length of list1 :", l1 )

print("Length of list2 :", l2 )

if l1 == l2 :

   print("The lists are of same length")

else :

   print("The lists are of different length")

**OUTPUT**

The first list is : [1, 2, 5, 8, 3]

The second list is :[1, 2, 5, 8, 9]

Length of list1 : 5

Length of list2 : 5

The lists are of same length

(b) whether list sums to same value

list1 = [1, 2, 5, 8, 3]

list2 = [1, 2, 5, 8, 9]

print("The first list is : " + str(list1))

print("The second list is :" + str(list2))

sum1 = 0

sum2 = 0

for x in range (0 , len(list1)):

   sum1 = sum1 + list1[x]

print("sum of all elements in given list1 : ",sum1)

for x in range (0 ,len(list2)):

   sum2 = sum2 + list2[x]

print("sum of all elements in given list1 : ",sum2)

if(sum1 == sum2):

  print("Lists sums to same value")

else :

    print("Lists sums to different value")

**OUTPUT**

The first list is : [1, 2, 5, 8, 3]

The second list is :[1, 2, 5, 8, 9]

sum of all elements in given list1 : 19

sum of all elements in given list1 : 25

Lists sums to different value

(c) whether any value occur in both

list1 = [1, 2, 5, 8, 3]

list2 = [1, 2, 5, 8, 9]

print("The first list is : " + str(list1))

print("The second list is :" + str(list2))

print("The values occur in both lists : ")

for x in list1:

   if(x in list1 and x in list2):

     print(x)

**OUTPUT**

The first list is : [1, 2, 5, 8, 3]

The second list is :[1, 2, 5, 8, 9]

The values occur in both lists :

1

2

5

8

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]