#Algorithm

step 1 : start

step 2 : Read current and future year from user and store it in variables

step 3 : if year % 4 == 0 && year%100 !=0 or year%400 == 0 then Y is a leap year else not

step 4 : print proper result

step 5 : stop

current\_year=int(input("Enter the current year : "))

future\_year=int(input("Enter the future year   : "))

if(current\_year<future\_year):

    for y in range(current\_year, future\_year+1):

        if(y%4==0 and y%100!=0 or y%400==0):

            print(y)

        else:

            print("invalid")

#Output

Enter the Current year : 2023

enter the future year  : 2030

2024

2028

#######################

A)Generate positive list of numbers from a result

step 1 : start

step 2 : create a list of integers

step 3 : for x in lis if x > 0 then its a positive number else not

step 4 : print proper result

step 5 : stop

l1=[1,2,-3,66,-45]

new\_l=[x for x in l1 if x>0]

print(new\_l)

####################

B)Square of N Numbers

step 1 : start

step 2 : Ask the user to Enter the range and read it in variable num

step 3 : for x in range x\*\*2 print the perfect squares upto range

step 4 : print proper result

step 5 : stop

num=int(input("Enter the Range : "))

square=[x\*\*2 for x in range(0,num+1)]

print(square)

#output

Enter the Range : 5

[0, 1, 4, 9, 16, 25]

####################

C)From a list of vowels selected from a given word

step 1 : start

step 2 : Ask the user to enter the word

step 3 : for x in range x\*\*2 print the perfect squares upto range

step 4 : print proper result

step 5 : stop

word = input("Enter a Word : ")

vowels = [x for x in word if x in "aeiou"]

print("Vowels in", word ,":" ,vowels)

#output

Enter a Word : vowels

Vowels in vowels : ['o', 'e']

#####################

D)From a list of ordinal values of each element of a word

step 1 : start

step 2 : Ask the user to enter the word

step 3 : use ord() function, to get ordinal value

step 4 : print proper result

step 5 : stop

word = input("Enter a Word : ")

ordinal\_values = [ord(x) for x in word]

print("Ordinal values of ",word,":", ordinal\_values)

#output

Enter a Word : python

Ordinal values of  python : [112, 121, 116, 104, 111, 110]

#Algorithm

step 1 : start

step 2 : Ask the user to enter number of elements in list

step 3 : Ask the user to enter the integers

step 4 : if intger > 100 then replace the value as 'over'

step 5: print proper result

step6 : stop

d=[]

num=int(input("Enter number of elements in the list : "))

print("Enter the Elements : ")

for i in range(0,num):

    element=int(input())

    d.append(element)

for i in range(len(d)):

    if d[i]>100:

        d[i]="over"

print(d)

#Output

Enter number of elements in the list : 5

Enter the Elements :

100

250

78

96

150

[100, 'over', 78, 96, 'over']

#Algorithm

step 1 : start

step 2 : Store a list of names in fname

step 3  Using count(),count the occurance of 'a' or 'A'

step 4 : print proper result

step 5 : stop

fname = ["Alice", "Bob", "Charlie", "Diana", "Eva"]

count= 0

for x in fname:

  count += x.count("a")

  count += x.count("A")

print("Number of 'a' in first names:")

print(count)

#Output

Number of 'a' in first names:

5

'''

#Algorithm

step 1 : start

step 2 : Ask the user to enter a line of String

step 3 : count the occurance of each word

step 4: print proper result

step 5 : stop

'''

text = input("Enter a line of text: ")

words = text.lower().split()

word\_counts = {}

for word in words:

  if word in word\_counts:

    word\_counts[word] += 1

  else:

    word\_counts[word] = 1

print("Word counts:")

for word, count in word\_counts.items():

  print(f"{word}: {count}")

'''

#Output

Enter a line of text: orange is orange

Word counts:

orange: 2

is: 1

'''