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

```
x=int(input("enter a year to check leap year or not"))
```

enter a year to check leap year or not 2021

```
 if x%400==0 or (x%4 and x%100!=0):
        print(x,"is leap year")
else:
        print(x,"not a leap year")
```

OUTPUT

```
>>> x=int(input("enter a year to check leap year or not"))
enter a year to check leap year or not 2021
>>> if x%400==0 or (x%4 and x%100!=0):
        print(x,"is leap year")
else:
        print(x,"not a leap year")


2021 is leap year
```

3b,Square of N numbers

```
def sq():
        n=int(input("enter the total number "))
        lists=[]
        for i in range(n):
                val=int(input("enter a number: "))
                lists.append(val)
        for i in lists:
                print("square of ",i,"is ",(i*i))
```

OUTPUT

```
>>> sq()
enter the total number 4
enter a number: 5
enter a number: 3
enter a number: 2
enter a number: 1
square of  5 is  25
square of  3 is  9
square of  2 is  4
square of  1 is  1
```

3c, Form a list of vowels selected from a given word

```
def vow():
        word=input("enter word: ")
        vow="aeiouAEIOU"
        vl=[each for each in word if each in vow]
        print(vl)
```

OUTPUT

```
>>> def vow():
        word=input("enter word: ")
        vow="aeiouAEIOU"
        vl=[each for each in word if each in vow]
        print(vl)


>>> vow()
enter word: ashish
['a', 'i']
```

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

```
def count():
        txt=input("enter a string ")
        count=1
        for i in txt:
                if(i==" "):
                        count+=1
        print("The count of words is : ",count)
```

OUTPUT

```
>>> def count():
        txt=input("enter a string ")
        count=1
        for i in txt:
                if(i==" "):
                        count+=1
        print("The count of words is : ",count)


>>> count()
enter a string how are you
The count of words is :  3
```

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

```
def name():
        n=int(input("enter the total names "))
        lists=[]
```

```
    count=0
    for i in range(n):
        name=input("enter a name: ")
        lists.append(name)
    for i in lists:
        for j in i:
            if(j=="a"):
                count+=1
    print("The count of 'a' ,count)
```

OUTPUT

```
>>> name()
enter the total number of names 3
enter a name: Ashish
enter a name: Amal
enter a name: Naveen
The count of 'a' 4
```

6, 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

```
def lists():
    list1=[]
    list2=[]
    list3=[]
    n1=int(input("Total number of elements in list 1 :"))
    for i in range(n1):
        val=int(input("enter a number: "))
        list1.append(val)
    n2=int(input("Total number of elements in list 2 :"))
    for i in range(n2):
        val=int(input("enter a number: "))
        list2.append(val)
    if(n1==n2):
        print("list are of same length")
```

```
    else:
        print("list are not of same length")
    if(sum(list1)==sum(list2)):
        print("sum value is same")
    else:
        print("sum value is not same")
    list3=[each for each in list1 if each in list2]
    print("values in both lists are :",list3)
```

OUTPUT

```
>>> lists()
Total number of elements in list 1 :4
enter a number: 3
enter a number: 2
enter a number: 6
enter a number: 1
Total number of elements in list 2 :3
enter a number: 5
enter a number: 5
enter a number: 1
list are not of same length
sum value is not same
values in both lists are : [1]
```

7, Get a string from an input string where all occurrences of first character replaced with '$', except first character

```
def string():
    string=input("Enter a string : ")
    char=string[0]
    string=string.replace(char,'$')
    print(char+string[1:])
```

OUTPUT

```
>>> string()
Enter a string : onion
oni$n
```

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

```
def reverse(getstr):
    return getstr[ : :-1]
```

OUTPUT

```
>>> reverse("python")
'nohtyp'
```

9, Accept the radius from user and find area of circle.

```
import math

def area():
        x=int(input("Enter the radius: "))
        x=math.pi*(x*x)
        print("area of circle:  “,x )
```

OUTPUT

```
>>> area()
enter the radius : 3
area of circle:  28.274333882308138
```

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

```
def nsum():
        n=str(input("enter a number : "))
        a=n
        b=n+n
        c=n+n+n
        nsum=0
        nsum=int(a)+int(b)+int(c)
        print(nsum)
```

OUTPUT

```
>>> nsum()
enter a number : 5
615
```

17,Sort dictionary in ascending and descending order

```
def dic():
        dic={}
        n=int(input("total n.o of elements : "))
        for i in  range(n):
                dic[i]=input("enter elements: ")
        asc=sorted(dic.values())
        print("ascending order: ",asc)
        asc.reverse()
        print("descending order: ",asc)
```

OUTPUT

```
>>> dic()
total n.o of elements : 4
enter elements: ashish
enter elements: able
enter elements: karthik
enter elements: crpstal
ascending order:  ['able', 'ashish', 'crpstal', 'karthik']
 descending order:  ['karthik', 'crpstal', 'ashish', 'able']
```

18, Merge two dictionaries

```
def mer():
        x={'a': 1,'b': 2}
        y={'b': 10,'c': 11}
        z = x.update(y)
        print(z)
        print(x)
```

OUTPUT

```
>>> mer()
None
{'a': 1, 'b': 10, 'c': 11}
```

19, Find gcd of 2 numbers.

```
def gcd():
        a=int(input("Enter first number "))
        b=int(input("Enter second number "))
        while b!=0:
                r=a%b
                a=b
                b=r
        print("The GCD of the numbers is",a)
```

OUTPUT

```
>>> gcd()
Enter first number 40
Enter second number 50
The GCD of the numbers is 10
```