(1) write a python program to sum of the first n positive integer.

In [8]:
```
n = int(input("enter the value of a : "))
sum = 0
for i in range(1,n+1):
    sum = sum+i
print(sum)
```

```
enter the value of a : 3
6
```

(2) Python program to count the occurrences of character in a given string.

In [2]:
```
str1 = input("enter the string :")
check = input("enter string to check in main string :")
print(str1.count(check))
```

```
enter the string :hello world
enter string to check in main string :o
2
```

(3) Python program to count the occurrences of substring in a given string.

In [7]:
```
str1 = input("enter the string :")
substr = input("enter the string :")
count = str1.count(substr)
print(count)
```

```
enter the string :i am good is good.
enter the string :is
1
```

(4) Write a Python program to get a single string from two given strings,separated by a space and swap the first two characters of each string.

In [9]:
```
str1 = input("enter the string :")
str2 = input("enter the string :")
str3 = str1[-1]+str1[1:-1]+str1[0]
str4 = str2[-1]+str2[1:-1]+str2[0]
str5 = str3+" "+str4
print(str5)
```

```
enter the string :hello
enter the string :world
oellh dorlw
```

(5) Write a Python program to add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead if the string length of the given string is less than 3, leave it unchanged.

In [10]:
```
str1 = input("enter the string :")
if len(str1)>=3:
    if  str1.endswith("ing")==True:
        print(str1+"ly")
    else:
        print(str1+"ing")
else:
    print(str1)
```

```
enter the string :dancing
dancingly
```

(6) Write a Python program to find the first appearance of the substring 'not' and 'poor' from a given string, if 'not' follows the 'poor', replace the whole 'not'...'poor'substring with 'good'. Return the resulting string.

In [11]:
```
str1 = input("enter the string :")
if "not poor" in str1:
    print(str1.replace("not poor","good"))
else:
    print("str1")
```

```
enter the string :i am not poor
i am good
```

(7) program to find greatest common divisor of two numbers.

In [3]:
```
num1 = int(input("enter a number :"))
num2 = int(input("enter a number :"))
for i in range(1,num1):
    if num1%i==0 and num2%i==0:
        gcd1=i
print(f"the gcd of {num1} and {num2} is {gcd1}")
```

```
enter a number :28
enter a number :20
the gcd of 28 and 20 is 4
```

(8) python program to check whether a list contains a sublist.

In [4]:
```
list1 = [1,2,3,4,5,6,[1,2,3,4]]
for i in list1:
    if type(i)==type(list1):
        print("True")
```

```
True
```

(9) Write a Python program to find the second smallest number in a list.

In [1]:
```
list1 = []
n = int(input("how many number you want to enter : "))
for i in range(n):
    num = int(input("Enter number : "))
    list1.append(num)
list1.sort()
print("final list is :",list1)
print("The second smallest value of this list: ",list1[1])
```

```
how many number you want to enter : 4
Enter number : 12
Enter number : 6
Enter number : 23
Enter number : 25
final list is : [6, 12, 23, 25]
The second smallest value of this list:  12
```

(10) Write a Python program to get unique values from a list.

In [2]:
```
my_list = [10, 20, 30, 40, 20, 50, 60, 40]
print("Original List : ",my_list)
my_set = set(my_list)
print("List of unique numbers : ",my_set)
```

```
Original List :  [10, 20, 30, 40, 20, 50, 60, 40]
List of unique numbers :  {40, 10, 50, 20, 60, 30}
```

(11) Write a Python program to unzip a list of tuples into individual lists.

In [3]:
```
list1 = [(),(1,2),(1,),()]
for i in list1:
    print(list(i))
```

```
[]
[1, 2]
[1]
[]
```

(12) Write a Python program to convert a list of tuples into a dictionary.

In [4]:
```
list_1=[("Nakul",93), ("Shivansh",45), ("Samved",65)]
dict_1=dict()
for i,j in list_1:
    dict_1.setdefault(i, []).append(j)
print(dict_1)
```

```
{'Nakul': [93], 'Shivansh': [45], 'Samved': [65]}
```

(13) Write a Python script to sort (ascending and descending) a dictionary by value.

In [5]:
```
dict1 = {4: 'three',2: 'two',3: 'three'}
dict2 = sorted(dict1.items())
dict3 = sorted(dict1.items(),reverse=True)
print("Sorted dictionary in ascending form is :",dict2)
print("Sorted dictionary in descending form is :",dict3)
```

```
Sorted dictionary in ascending form is : [(2, 'two'), (3, 'three'), (4, 'thre
e')]
Sorted dictionary in descending form is : [(4, 'three'), (3, 'three'), (2, 'tw
o')]
```

(14) Write a Python program to find the highest 3 values in a dictionary.

In [6]:
```
dict1 = eval(input("Enter a dictionary :-"))
val = list( dict1.values() )
val.sort()
print("Highest 3 values ",val[ - 1 : - 4 : - 1])
```

```
Enter a dictionary :-{ "Portal":16, "Express":14, "Path":15, "Walla":10,"Pytho
n":19}
Highest 3 values  [19, 16, 15]
```

(15) Given a number n, write a python program to make and print the list of Fibonacci series up to n.

- Input : n=7
- Hint : first 7 numbers in the series
- Expected output :
- First few Fibonacci numbers are 0, 1, 1, 2, 3, 5, 8, 13

In [5]:
```
n=int(input("Enter The NUmber: "))
a=0
b=1
for i in range(0,n+1):
    if i <= 1:
        c = i
    else:
        c = a + b
        a = b
        b = c
    print(c,end=" ")
```

```
Enter The NUmber: 5
0 1 1 2 3 5
```

(16) Counting the frequencies in a list using a dictionary in Python.

- Input : [1, 1, 1, 5, 5, 3, 1, 3, 3, 1,4, 4, 4, 2, 2, 2, 2]
- Expected output : 1 : 5 , 2 : 4 , 3 : 3 , 4 : 3 , 5 : 2

In [6]:
```
list1 = [1, 1, 1, 5, 5, 3, 1, 3, 3, 1, 4, 4, 4, 2, 2, 2, 2]
list2 = []
dict1 = {}
for i in list1:
    if i not in list2:
        list2.append(i)
for j in list2:
    c = 0
    for i in list1:
        if j == i:
            c += 1
        else:
            continue
        dict1[i] = c
print(dict1)
```

```
{1: 5, 5: 2, 3: 3, 4: 3, 2: 4}
```

(17) Write a python program using function to find the sum of odd series and even series

- Odd series: 12/ 1! + 32/ 3! + 52/ 5!+……n
- Even series: 22/ 2! + 42/ 4! + 62/ 6!+……n

In [7]:
```
def fact(n):
    if n == 0 or n == 1:
        return 1
    else:
        return n*fact(n-1)
n = int(input("Enter sequences : "))
sum1 = 0
for i in range(1,2*n,2):
    sum1 = sum1 + i**2/fact(i)
    print(f"{i}^2/{i}! +",end = " ")
print("=",sum1)
n1 = int(input("Enter sequences : "))
sum2 = 0
for j in range(2,(2*n1+1),2):
    sum2 = sum2 + j**2/fact(j)
    print(f"{j}^2/{j}! +",end = " ")
print("=",sum2)
```

```
Enter sequences : 2
1^2/1! + 3^2/3! + = 2.5
Enter sequences : 2
2^2/2! + 4^2/4! + = 2.6666666666666665
```

(18) Python Program to Find Factorial of Number Using Recursion

In [8]:
```
def fact(n):
    if n == 0:
        return 1
    else:
        return n * fact(n-1)
n=int(input("Enter Number which Factorial you want to find : "))
print(fact(n))
```

```
Enter Number which Factorial you want to find : 4
24
```

(19) Write a Python function that takes a list and returns a new list with unique elements of the first list.

In [7]:
```
list1 = [1,2,3,4,5,6,7,7,7,5,6]
list2 = []
for i in list1:
    if list1.count(i) == 1:
        list2.append(i)
    else:
        pass
print("list2 is :",list2)
```

```
list2 is : [1, 2, 3, 4]
```