CO1 PROGRAMS

1. **Familiarizing Text Editor, IDE, Code Analysis Tools etc // Use any IDE**
   Pycharm-
   - Code Completion
   - Intelligent code editors
   - Availability of integration tools
   - Remote Development
   - Integrated debugging and testing

   Sublime Text-
   - Quick navigation
   - Simultaneous editing
   - Python based plugin API
   - Extensive customisability

   Pydev
   - Code completion with auto import
   - Code analysis with Quick fix.
   - Interactive console
   - Code folding
   - Remote debugger

   IDLE - Python's Integrated Development and Learning Environment
   - Cross Platform
   - Python Shell Windows
   - Multi windows text editor
   - Search within any window

IDE(Integrated Development Environment) Using- IDLE

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

```
s=int(input("enter start year:"))
e=int(input("enter end year:"))
if(s<e):
print("leap years are:",end=" ")
for i in range(s,e):
   if i%4==0 and i%100!=0:
print(i,end=" ")
```

Output

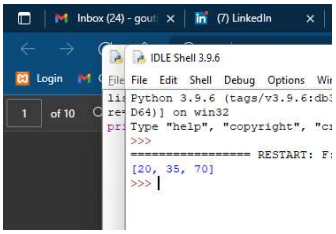
```
================ RESTART: F:/MCA 21 -
enter start year:2000
enter end year:2020
leap years are: 2004 2008 2012 2016
>>>
```

3.List comprehensions:

- **Generate positive list of numbers from a given list ofintegers**

```
list1 =[-10,20,35,-67,70]
re=[num for num in list1 if num>=0]
print(re)
```

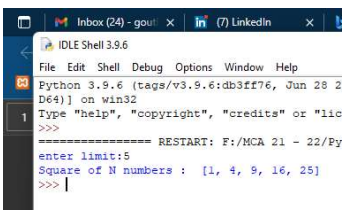
Output



Square of Nnumber

```
n=int(input("enter limit:"))
squarelist= [ i**2 for i in
range(1,n+1)] print("Square
of N numbers : ", squarelist)
```

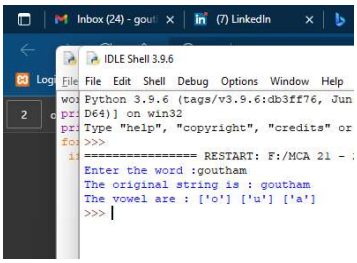
OUTPUT:



Form a list of vowels selected from a givenword

```
word =str(input("Enter the word :"))
print("The original string is : "+word)
print("The vowel are : ",end="")
for i in word:
  if i in 'aeiouAEIOU':
    print([i],end=" ")
```

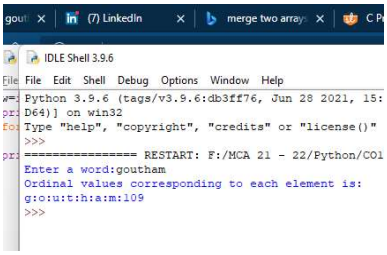
OUTPUT:



- **List ordinal value of each element of a word (Hint: use ord() to get ordinalvalues)**

```
w=input("Enter a word:")
print("Ordinal values corresponding to each
element is:") for i in w:
    print(i,end=":")
    print(ord(i),end=" ")
```

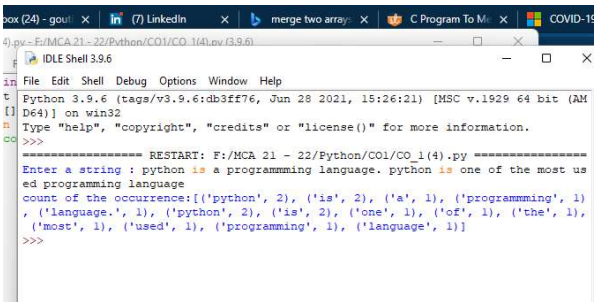
OUTPUT:



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

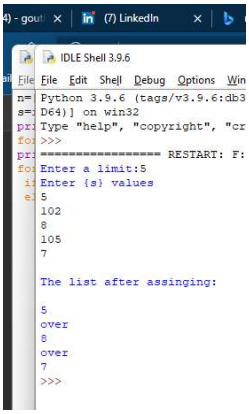
```
str1 = input("Enter a string : ")
wordlist = str1.split()
count= []
for w in wordlist: count.append(wordlist.count(w))
print("count of the occurrence:" + str(list(zip(wordlist, count))))
```

OUTPUT:



5. Promptthe user for a list of integers. For all values greater than 100 , store 'over' instead

```
n=[]
s=int(input("Enter a limit:"))
print("Enter {s} values")
for i in range(0,s): n.append(int(input()))
print("\nThe list after assinging:\n")
for i in range(0,len(n)):
  if n[i]>=100:print("over")
else:print(n[i])
```



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

```
a_list = ["a", "b", "a"]
occ = a_list.count("a")
print("count of occurrences of a :",occ)
```

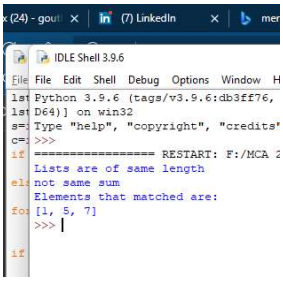
OUTPUT:

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**

```
 lst=[1,3,5,7,9,11,34]
lst1=[5,13,45,7,20,65,1]
s=int(0)
c=int(0)

if len(lst)==len(lst1):
  print("Lists are of same length")
else:
  print("Lists have different length")

for i in range(0,len(lst) and len(lst1)):
  s=s+lst[i]
  c=c+lst1[i]
if(s==c):
  print("equal sum")
else:
  print("not same sum")

print("Elements that matched are:")
l=[]
```

```
for i in range(0,len(lst)):
  for j in range(0,len(lst1)):
    if lst[i]==lst1[j]:
        l.append(lst[i] and lst1[j])
    else:
      continue
print(l)
```

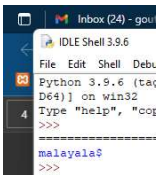
OUTPUT:



8.Get a string from an input string where all occurrences of first character replaced with '$', except first character. [eg: onion ->oni$n]

```
str1="malayalam"
char = str1[0]
str1 = str1.replace(char, '$')
str1 = char + str1[1:]
print(str1)
```

OUTPUT:



9.Create a string from given string where first and last characters exchanged. [eg: python ->nythop]

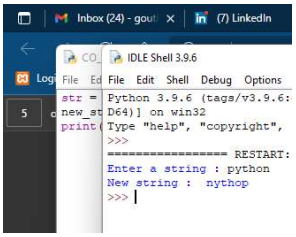
str = input("Enter a string :)

new_str = str[-1:]

+str[1:-1] + str[:1]

print("New string : ",new_str)

OUTPUT:



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

pi=3.14

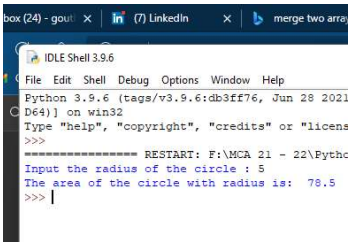
r = float(input ("Input the radius of

the circle : "))

result=3.14 * r**2

print ("The area of the circle with radius is: ", result)

OUTPUT:



11. Find biggest of 3 numbers entered

x = int(input("Enter 1st number: "))

y = int(input("Enter 2nd number: "))

z = int(input("Enter 3rd number: "))

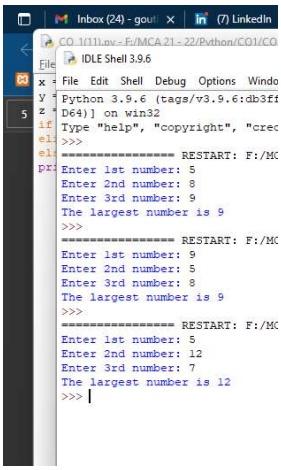
if (x > y) and (x > z):largest = x

elif (y > x) and (y > z): largest = y

else:largest = z

print("The largest number is",largest)

OUTPUT:



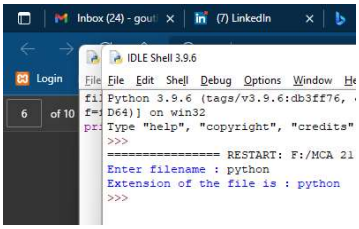
12.Accept a file name from user and print extension of that

file= input("Enter filename : ")

f=file.split(".")

print("Extension of the file is : " + f[-1])

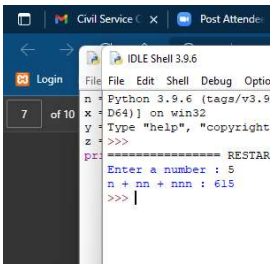
OUTPUT:



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

n = int(input("Enter a number : ")) x = int("%s" % n)
y = int("%s%s" % (n,n))
z = int("%s%s%s" % (n,n,n)) print ("n + nn + nnn :",x+y+z)

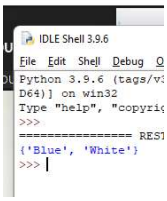
OUTPUT:



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

```
color_list_1 = set(["White", "pink",
"Red","Blue"])

color_list_2 =set(["Red",
"Green","pink"])
print(color_list_1.difference(color_
list_2))
```

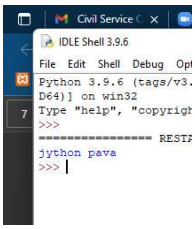
OUTPUT:



16.Create a single string separated with space from two strings by swapping the character at position 1.

```
a="python"
b="java"
p1=a[0]
p2=b[0]
c=b[0]+a[1:len(a)]+" "+a[0]+b[1:len(b)]
print(c)
```

OUTPUT:



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 by value ',sorted_d)

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

print('Dictionary in descending order by value : ',sorted_d)
```

OUTPUT

```
========== RESTART: C:/Users/mca/Desktop/MCA 2021 - 20.
Original dictionary :  {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}
Dictionary in ascending order by value  [(0, 0), (2, 1), (1, 2), (4, 3), (3, 4)]
Dictionary in descending order by value :  {3: 4, 4: 3, 1: 2, 2: 1, 0: 0}
>>>
```

18.Merge two dictionaries

```
d1 ={ 'a': 100, 'b': 200}

d2 ={'x' : 300, 'y': 200}

print ("Dict ionary 1=:", d1)

print ("Dictionary 2-: ", d2)

d =d1. copy ()

d.update (d2)

print ("Merged Dictionary: ", d)
```

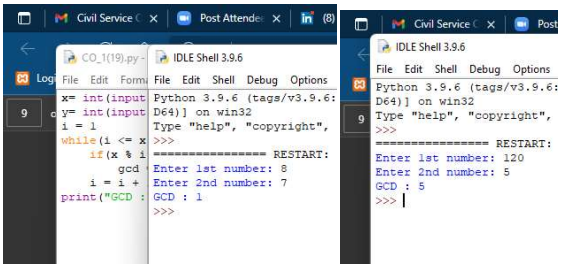
OUTPUT

```
========== RESTART: C:/Users/mca/Desktop/M
Dict ionary 1=: {'a': 100, 'b': 200}
Dictionary 2-:  {'x': 300, 'y': 200}
Merged Dictionary:  {'a': 100, 'b': 200, 'x': 300, 'y': 200}
>>>
```

19.Find gcd of 2 numbers.

```
x= int(input("Enter 1st number: "))
y= int(input("Enter 2nd number: "))
i = 1
while(i<= x and i<= y):
        if(x % i == 0 and y% i == 0):
                gcd = i
        i = i + 1
print("GCD :", gcd)
```

OUTPUT:



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

```
num = [7,8, 120, 25, 44, 20, 27]
print( "Original list:",num)
num = [x for x in num if x%2!=0]
print("list after removing Even numbers:",num)
```

OUTPUT: