

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

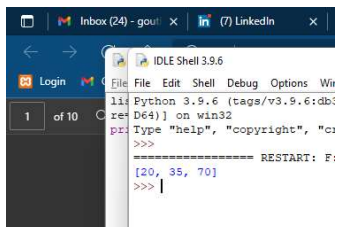
```
===== RESTART: F:/MCA 21 -
enter start year:2000
enter end year:2020
leap years are: 2004 2008 2012 2016
>>>
```

3.List comprehensions:

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

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

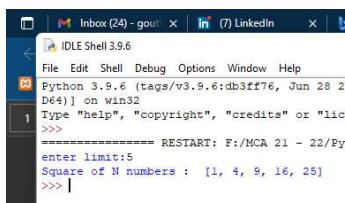
Output



Square of Nnumber

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

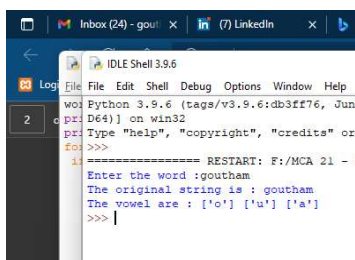
OUTPUT:



Form a list of vowels selected from a given word

```
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:

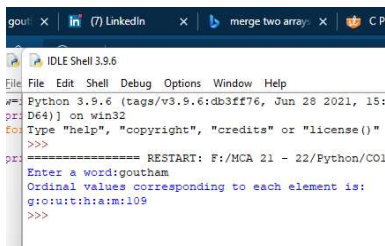


```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:06:04) on win32
Type "help", "copyright", "credits" or "license()"
>>>
1 ===== RESTART: F:/MCA 21 - 1
Enter the word :goutham
The original string is : goutham
The vowel are : ['o'] ['u'] ['a']
>>> |
```

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

```
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:

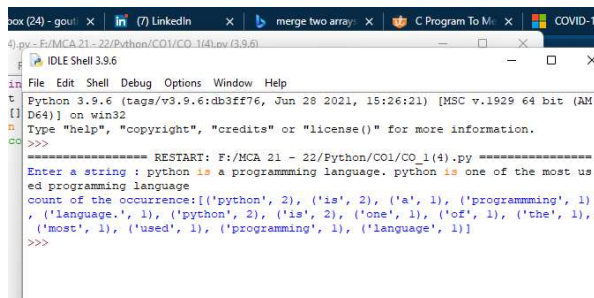


```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:06:04) on win32
Type "help", "copyright", "credits" or "license()"
>>>
1 ===== RESTART: F:/MCA 21 - 22/Python/CO1
Enter a word:goutham
Ordinal values corresponding to each element is:
g:o:u:t:h:a:m:109
>>>
```

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:

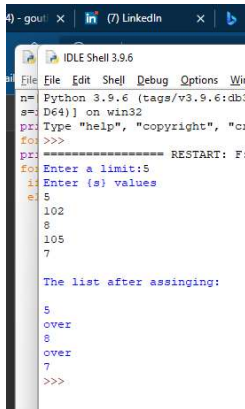


```
Python 3.9.6 Shell
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:\MCA 21 - 22\Python\CO1\CO_1(4).py =====
Enter a string : python is a programming language. python is one of the most used programming language
count of the occurrence:[('python', 2), ('is', 2), ('a', 1), ('programming', 1), ('language.', 1), ('python', 2), ('is', 2), ('one', 1), ('of', 1), ('the', 1), ('most', 1), ('used', 1), ('programming', 1), ('language', 1)]
>>>
```

5. Prompt the 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("\n\nThe list after assinging:\n")
for i in range(0,len(n)):
    if n[i]>=100:print("over")
    else:print(n[i])
```



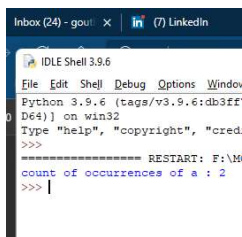
```
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff33, Oct 8 2021) on win32
Type "help", "copyright", "credits()" or "quit()" for more
>>>
===== RESTART: F:\Python39\IDLE\Python Shell
>>> Enter a limit:5
>>> Enter (s) values:
5
102
8
105
7

The list after assigning:
5
over
8
over
7
>>>
```

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:



```
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff33, Oct 8 2021) on win32
Type "help", "copyright", "credits()" or "quit()" for more
>>>
===== RESTART: F:\Python39\IDLE\Python Shell
>>> count of occurrences of a : 2
>>> |
```

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")

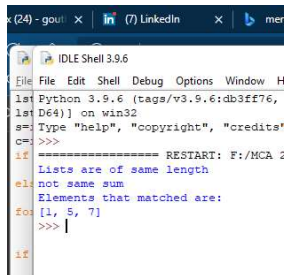
print("Elements that matched are:")
l=[]
```

```

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:



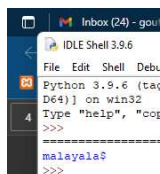
8. Get a string from an input string where all occurrences of first character replaced with '\$', except first character. [eg: onion -> oni\$n]

```

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]

```

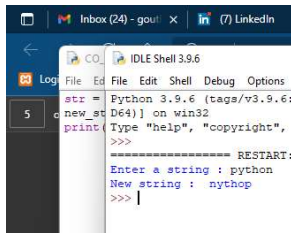
str = input("Enter a string : ")

new_str = str[-1:]
+str[1:-1] + str[:1]

print("New string : ",new_str)

```

OUTPUT:

A screenshot of the IDLE Shell 3.9.6 window. The menu bar includes Log, File, Edit, Shell, Debug, and Options. The code area shows a Python script with a variable 'str' assigned to 'Python 3.9.6 (tags/v3.9.6: D64) on win32', followed by a 'print' statement. The output area shows the same text as the code, followed by a 'RESTART' prompt and a 'New string' prompt with the value 'nythop'.

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

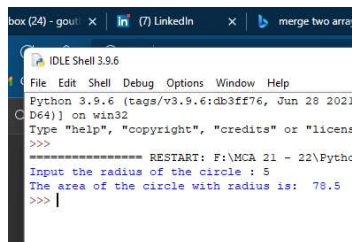
pi=3.14

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:

A screenshot of the IDLE Shell 3.9.6 window. The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The code area shows the Python script for calculating the area of a circle. The output area shows the prompt 'Input the radius of the circle : 5' and the result 'The area of the circle with radius is: 78.5'.

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: "))

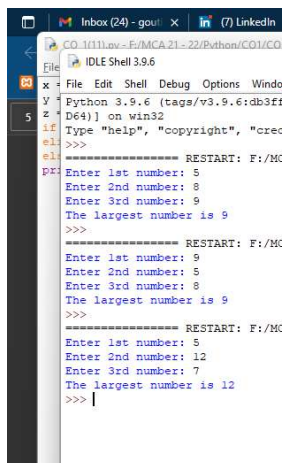
if (x > y) and (x > z):largest = x

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

else:largest = z

print("The largest number is",largest)

OUTPUT:



```
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff
D64) on win32
>>>
>>>
===== RESTART: F:/MC
Enter 1st number: 5
Enter 2nd number: 8
Enter 3rd number: 9
The largest number is 9
>>>
===== RESTART: F:/MC
Enter 1st number: 9
Enter 2nd number: 5
Enter 3rd number: 8
The largest number is 9
>>>
===== RESTART: F:/MC
Enter 1st number: 5
Enter 2nd number: 12
Enter 3rd number: 7
The largest number is 12
>>>
```

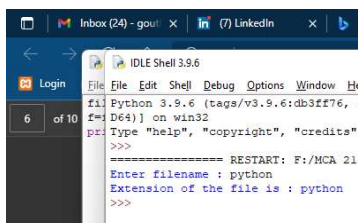
12.Accept a file name from user and print extension of that

```
file= input("Enter filename : ")
```

```
f=file.split(".")
```

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

OUTPUT:



```
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff76,
D64) on win32
>>>
>>>
===== RESTART: F:/MCA 21
Enter filename : python
Extension of the file is : python
>>>
```

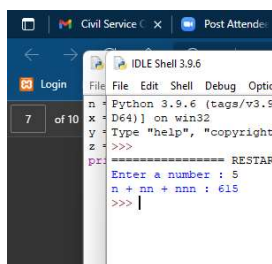
14.Accept an integer n and compute n+nn+nnn

```
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:

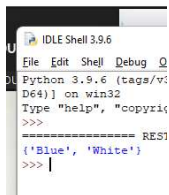


```
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff76,
D64) on win32
>>>
>>>
===== RESTART: F:/MCA 21
Enter a number : 5
n + nn + nnn : 615
>>>
```


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))
```

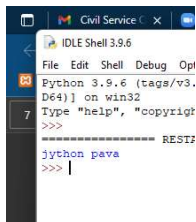
OUTPUT:



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)
```

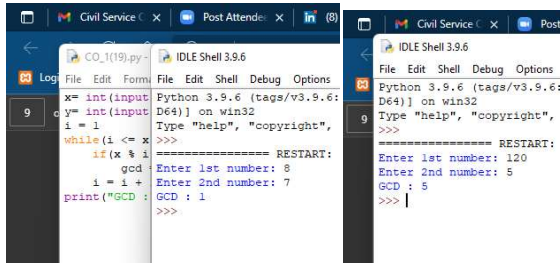
OUTPUT:



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:



The first screenshot shows the code for finding the GCD of two numbers using a while loop. The second screenshot shows the program's execution with input values 8 and 5, resulting in a GCD of 1.

```
CO_1(19).py IDLE Shell 3.9.6
File Edit Shell Debug Options
Python 3.9.6 (tags/v3.9.6:
D64) on win32
Type "help", "copyright",
>>>
===== RESTART:
Enter 1st number: 8
Enter 2nd number: 5
GCD : 1
>>>
```

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

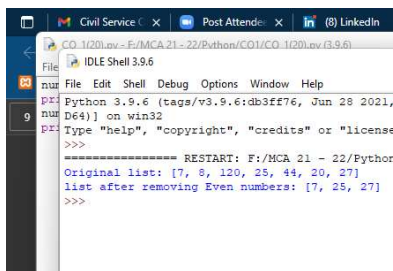
```
num = [7,8, 120, 25, 44, 20, 27]
```

```
print( "Original list:",num)
```

```
num = [x for x in num if x%2!=0]
```

```
print("list after removing Even numbers:",num)
```

OUTPUT:



The screenshot shows the execution of a Python program that creates a new list by removing even numbers from the original list [7, 8, 120, 25, 44, 20, 27]. The output shows the original list and the resulting list [7, 25, 27].

```
CO_1(20).py - F:/MCA 21 - 22/Python/CO_1/CO_1(20).py (3.9.6)
File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021,
D64) on win32
Type "help", "copyright", "credits" or "license
>>>
===== RESTART: F:/MCA 21 - 22/Pythor
Original list: [7, 8, 120, 25, 44, 20, 27]
list after removing Even numbers: [7, 25, 27]
>>>
```