**CO1 PROGRAMS**

1. Familiarizing Text Editor, IDE, Code Analysis Tools etc // Use any IDE

A code editor is a tool that is used to write and edit code. They are usually lightweight and can be great for learning. However, once your program gets larger, you need to test and debug your code, that's where IDEs come in.

An IDE (Integrated Development Environment) understand your code much better than a text editor. It usually provides features such as build automation, code linting, testing and debugging. This can significantly speed up your work. The downside is that IDEs can be complicated to use.

Some IDE’s are:

* Eclipse PyDev. ...
* IDLE. ...
* Wing. ...
* Emacs. ...
* Visual Studio Code. ...
* Sublime Text:
* Thonny
* PyCharm
* Atom
* Spyder

**IDLE**

IDLE is Python’s Integrated Development and Learning Environment.

IDLE has the following features:

* coded in 100% pure Python, using the [tkinter](https://docs.python.org/3/library/tkinter.html" \l "module-tkinter" \o "tkinter: Interface to Tcl/Tk for graphical user interfaces) GUI toolkit
* cross-platform: works mostly the same on Windows, Unix, and macOS
* Python shell window (interactive interpreter) with colorizing of code input, output, and error messages
* multi-window text editor with multiple undo, Python colorizing, smart indent, call tips, auto completion, and other features
* search within any window, replace within editor windows, and search through multiple files (grep)
* debugger with persistent breakpoints, stepping, and viewing of global and local namespaces
* configuration, browsers, and other dialogs

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

PROGRAM

y1=int(input("enter the year1 :"));

y2=int(input("enter the year2 :"));

print("Future leap years:")

for i in range(y1,y2):

if i%4==0 and i%100!=0:

print(i)

OUTPUT:

enter the year1 :2021

enter the year2 :2060

Future leap years:

2024

2028

2032

2036

2040

2044

2048

2052

2056

3.**List comprehensions:**

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

PROGRAM

list1=[]

l=[2,-2,45,65,-64,32,-111]

print("positive numbers are :")

for i in range(len(l)):

if(l[i]>0):

list1.append(l[i])

print(list1)

OUTPUT:

positive numbers are :

[2, 45, 65, 32]

* **Square of N number**

PROGRAM

n=int(input("enter the limit\n"))

s=[ i\*\*2 for i in range(1,n+1)]

print(s)

OUTPUT

enter the limit

7

[1, 4, 9, 16, 25, 36, 49]

* **Form a list of vowels selected from a given word**

PROGRAM

word =str(input("Enter the word :"))

print("The vowels in the word is: ",end="")

for i in word:

if i in 'aeiouAEIOU':

print([i],end=" ")

OUTPUT

Enter the word :hai World

The vowels in the word is: ['a'] ['i'] ['o']

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

PROGRAM

w=input("Enter a word:")

print("Ordinal values for each elements:")

for i in w:

print(i,end=":")

print(ord(i),end=" ")

OUTPUT

Enter a word:Anandhu

Ordinal values for each elements:

A:65 n:110 a:97 n:110 d:100 h:104 u:117

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

PROGRAM

s= input("Enter a string : ")

word = s.split()

count= []

for w in word:

count.append(word.count(w))

print("count of the occurrence:" + str(list(zip(word, count))))

OUTPUT

Enter a string : This is python

count of the occurrence:[('This', 1), ('is', 1), ('python', 1)]

**5. Prompt the user for a list of integers. For all values greater than 100, store ‘over’ instead**

PROGRAM

lt=[]

n1=int(input("Enter a limit:"))

print("Enter values")

for i in range(0,n1):

lt.append(int(input()))

print("\nThe list is:\n")

for i in range(0,len(lt)):

if lt[i]>=100:

print("over")

else:

print(lt[i])

OUTPUT

Enter a limit:3

Enter values

23

456

1000

The list is:

23

over

over

**6. Store a list of first names. Count the occurrences of ‘a’ within the list**

PROGRAM

list1=['a','a','b','a']

N=list1.count('a')

print("occurance of a:",N)

OUTPUT

occurance of a: 3

**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**

PROGRAM

l1=[1,3,5,7,9,11,34]

l2=[5,13,45,7,20,65,1]

s=int(0)

c=int(0)

if len(l1)==len(l2):

print("same length")

else:

print("different length")

for i in range(0,len(l1)):

s=s+l1[i]

for i in range(0,len(l2)):

c=c+l1[i]

if(s==c):

print("equal sum")

else:

print("not same sum")

print("Same elements are:")

l=[]

for i in range(0,len(l1)):

for j in range(0,len(l2)):

if l1[i]==l2[j]:

l.append(l1[i] and l2[j])

else:

continue

print(l)

OUTPUT

different length

not same sum

Same elements are:

[5, 7]

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

PROGRAM

str="onion";

str1=str[0];

str2=str[1:];

str3=str2.replace(str1,"$")

print("Before replace:",str)

print("After replace:")

print(str1+str3);

OUTPUT

Before replace: onion

After replace:

oni$n

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

PROGRAM

str=input("enter the string: ");

s1=str[0];

s2=str[-1];

print("after swap")

print(s2+str[1:-1]+s1);

OUTPUT

enter the string: javascript

after swap

tavascripj

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

PROGRAM

r=float(input("enter the radius of the circle: "))

print("Area=",3.14\*r\*r);

OUTPUT

enter the radius of the circle: 2

Area= 12.56

**11**. Find biggest of 3 numbers entered

PROGRAM

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

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

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

large=x

if (large<y) and (y>z):

large = y

elif (large< z) and (y <z):

large = z

print("The largest number is",large)

OUTPUT

Enter 1st number: 3

Enter 2nd number: 2

Enter 3rd number: 15

The largest number is 15

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

PROGRAM

s1=input("enter the string with extension: ")

s2=s1.split(".")

print("extension is:")

print(s2[1])

OUTPUT

enter the string with extension: first.py

extension is:

py

**13**.Create a list of colors from comma-separated color names entered by user.Display first and last colors.

PROGRAM

a=[]

for i in range(3):

b=input("enter the color:")

a.append(b)

print("first color:",a[0])

print("last color:",a[2])

OUTPUT

enter the color:red

enter the color:blue

enter the color:black

first color: red

last color: black

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

PROGRAM

n=input("enter n :");

n1=n\*2;

n2=n\*3;

print("n+nn+nnn:")

print(int(n)+int(n1)+int(n2));

OUTPUT

enter n :5

n+nn+nnn:

615

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

PROGRAM

color\_list\_1 = set(["White", "pink", "Red","Blue"])

color\_list\_2 = set(["Red", "Green","pink"])

print(color\_list\_1.difference(color\_list\_2))

OUTPUT

{'Blue', 'White'}

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

PROGRAM

str1=input("enter string 1: ")

str2=input("enter string 2: ")

s1=str1[0]

s2=str2[0]

print(s2+str1[1:]+" "+s1+str2[1:])

OUTPUT

enter string 1: javascript

enter string 2: Python

Pavascript jython

**17.Sort dictionary in ascending and descending order.**

**PROGRAM**

import operator

dic={"javascript":2,"java":1,"python":3}

print("Before Sorting",dic);

print("Sorting Ascending")

s1=sorted(dic.items(),key=operator.itemgetter(0))

print(s1)

print("Sorting descending")

s2=sorted(dic.items(),key=operator.itemgetter(0),reverse=True)

print(s2)

OUTPUT

===

Before Sorting {'javascript': 2, 'java': 1, 'python': 3}

Sorting Ascending

[('java', 1), ('javascript', 2), ('python', 3)]

Sorting descending

[('python', 3), ('javascript', 2), ('java', 1)]

**18.Merge two dictionaries**

**PROGRAM**

n1={"Anandhu":22,"Dist":"Ernakulam"}

n2={"Hari":23,"Dist":"Idukki"}

print("D1=",n1)

print("D2=",n2)

d1=n1.copy()

d1.update(n2)

print("After Merge ")

print(d1)

OUTPUT

D1= {'Anandhu': 22, 'Dist': 'Ernakulam'}

D2= {'Hari': 23, 'Dist': 'Idukki'}

After Merge

{'Anandhu': 22, 'Dist': 'Idukki', 'Hari': 23}

**19.Find gcd of 2 numbers.**

PROGRAM

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

Enter 1st number: 5

Enter 2nd number: 3

GCD : 1

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

PROGRAM

l=[2,27,54,33,45]

l2=[]

for i in l:

if(i%2!=0):

l2.append(int(i))

print("after removing even no.s")

print(l2)

OUTPUT

after removing even no.s

[27, 33, 45]