LABCYCLE 1
EXPERIMENT NO:1
LEAP YEAR
Date: 10/11/2022

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

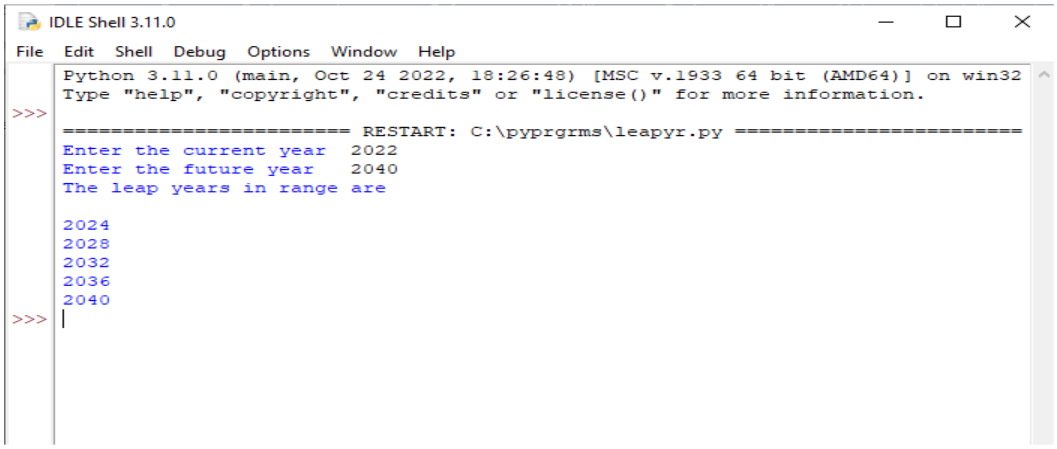
ALGORITHM:

Step 1: Start.
Step 2: Input current year and future year.
Step 3: Repeat step 3 to 7 from current year <=future year.
Step 4: Check whether year%4==0, if true then move to next step. If false then move to step 6.
Step 5: Check whether year%4==100, if true then move to next step. If false then move to step 6.
Step 6: Check whether year%4==0, if true then move to next step. If false then move to step 6.
Step 7: Print leap years.
Step 8: Stop.

SOURCE CODE:

```
year=int(input("Enter the current year\t"))
fut=int(input("Enter the future year\t"))
print("The leap years in range are\n" )
for year in range(year,fut+1):
if year%4==0 and year%100!=0 or year%400==0:
print(year)
```

OUTPUT:



RESULT:

Program to display leap entered by user has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:2
LIST OF VALUES
Date: 10/11/2022

Aim: List comprehensions:
(a) Generate positive list of numbers from a given list of integers
(b) Square of N numbers
(c) Form a list of vowels selected from a given word
(d) List ordinal value of each element of a word (Hint: use ord() to get ordinal values)

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

ALGORITHM:

Step 1: Start.
Step 2: Input a list of positive and negative integers.
Step 3: Repeat step 4 until end of list.
Step 4: If i>0 then append to new list.
[end of loop]
Step 5: Print the new list.
Step 6: Stop.

SOURCE CODE:

```
list1=[2,3,9,6,-3,-5,10,-15,11]
li=[]
print("The positive numbers in list are\n")
for i in list1:
    if i>0:
        li.append(i)

print(li)
```

(b) Square of N numbers

ALGORITHM:

Step 1: Start.

Step 2: Input the number, n.

Step 3: Repeat step 4 with range (1, n+1).

Step 4: Find square, sq=i*i.

Print(sq).

Step 5: Stop.

SOURCE CODE:

```
n=int(input("Enter the limit to find the square of N no:\n"))
for i in range(1,n+1):
    sq=i*i
    print("The squares of ",i,"is",sq,"\n")
```

(c)Form a list of vowels selected from a given word

ALGORITHM:

Step 1: Start.
Step 2: Input empty list.
Step 3: Input a word.
Step 4: check if each letter of word present in list of vowels, if true.
append the letter to empty list, goto step 4.
Step 5: Print list.
Step 6: Stop.

SOURCE CODE:

```
l=[]
wrd=input("Enter a word")
vowels=['a','e','i','o','u','A','E','I','O','U']

for i in wrd:
    if i in vowels:
        l.append(i)
print(l,"\t")
```

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

ALGORITHM:

Step 1: Start.

Step 2: Input the word.

Step 3: Print ordinal value by iterating the word.

Step 4: Stop

SOURCE CODE:

```
wrd=input("Enter the word\n")
li=[]
for i in wrd:
    d=ord(i)
    print("The ordinal value of ",i,"is",ord(i))
    li.append(d)
print(li)
```

OUTPUT:

```
IDLE Shell 3.11.0
File  Edit  Shell  Debug  Options  Window  Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======================== RESTART: C:\pyprgrms\poslist.py ========================
(a)The positive numbers in list are

[2, 3, 9, 6, 10, 11]
>>>
======================== RESTART: C:\pyprgrms\sqron.py ========================
(b)Enter the limit to find the square of N no:

======================== RESTART: C:\pyprgrms\vwls.py ========================
(c)Enter a word TelEvisIon
['e', 'E', 'i', 'I', 'o']
>>>
======================== RESTART: C:\pyprgrms\ordnl.py ========================
(d)Enter the word
Smackdown
The ordinal value of  S is 83
The ordinal value of  m is 109
The ordinal value of  a is 97
The ordinal value of  c is 99
The ordinal value of  k is 107
The ordinal value of  d is 100
The ordinal value of  o is 111
The ordinal value of  w is 119
The ordinal value of  n is 110
[83, 109, 97, 99, 107, 100, 111, 119, 110]
>>>
```

RESULT:

Program to perform list operation has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:3
OCCURRENCES OF WORD
Date: 10/11/2022

AIM: Count the occurrences of each word in a line of text.

ALGORITHM

Step 1: Start.

Step 2: Set Define function word_count(str)

count=dict()

words=str.split()

Take the count of each word.

Print(count).

Step 3: Input a string.

Step 4: Call function, word_count(str).

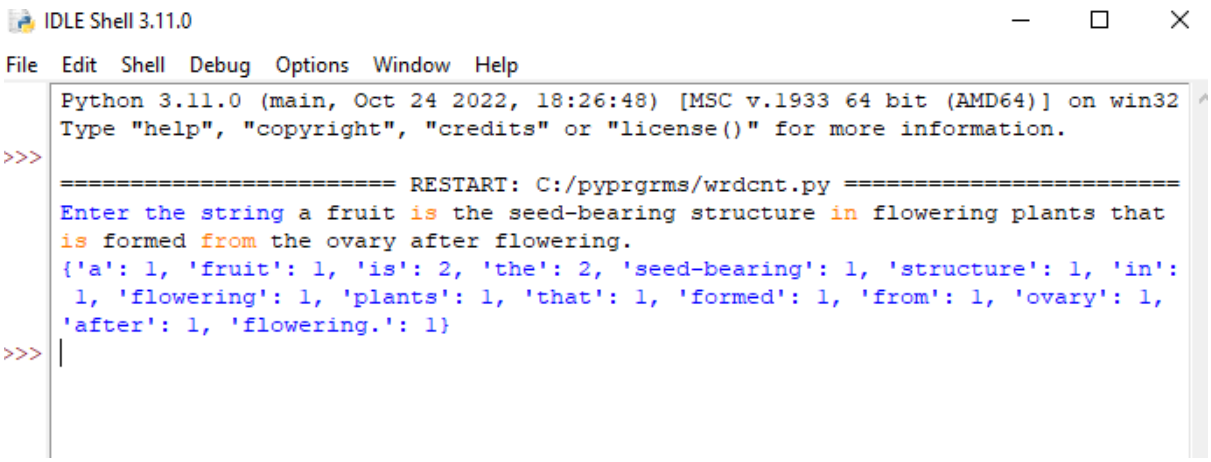
Step 5: Stop.

SOURCE CODE:

```
def word_count(str):
    count=dict()
    words=str.split()
    for w in words:
        if w in count:
            count[w]+=1
        else:
            count[w]=1
    print(count)
```

```
a=input("Enter the string ")
word_count(a)
```

OUTPUT:



RESULT:

Program to count the occurrences of each word has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:4
LIST OF INTEGERS
Date: 10/11/2022

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

ALGORITHM:

Step 1: Start.

Step 2: Input the two empty list.

Step 3: Input the limit,n.

Step 4: Append each element to the list.

Step 5: Append each element greater than 100 in another list.

Step 6: Print new list.

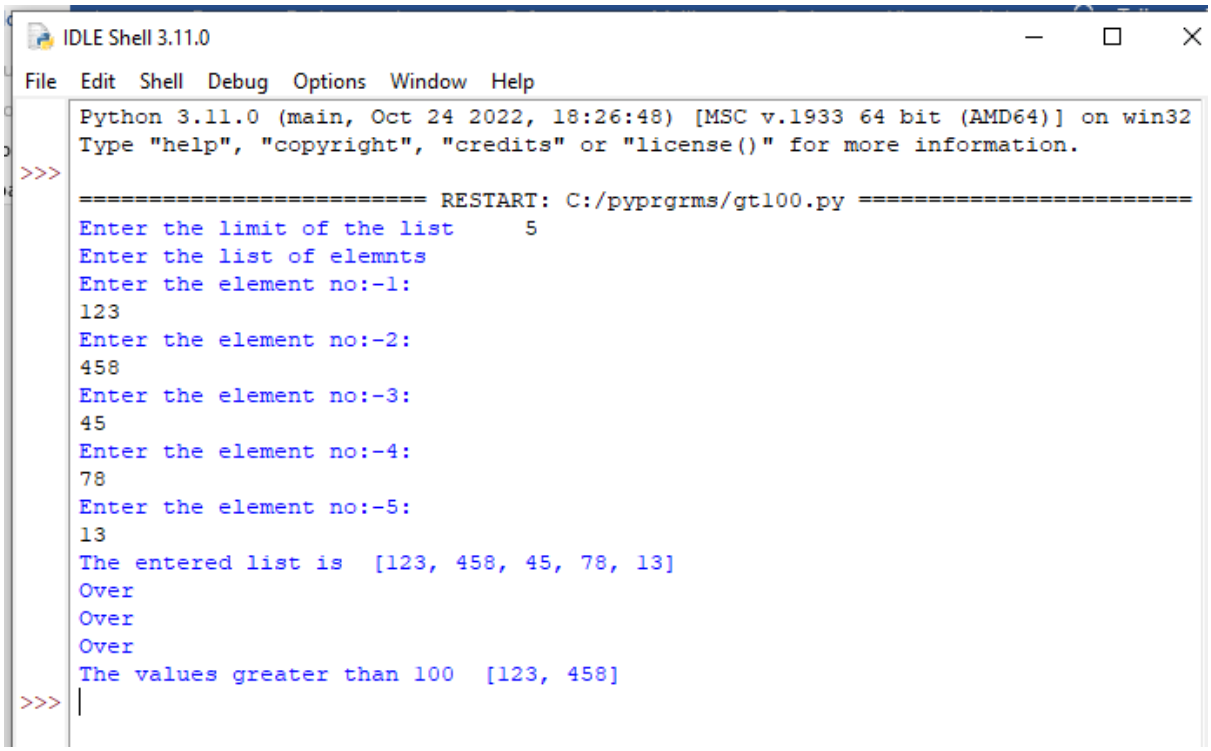
Step 7: Stop.

SOURCE CODE:

```
lis=[]
a=[]
n=int(input("Enter the limit of the list \t"))
print("Enter the list of elements")
for i in range(0,n):
    print("Enter the element no:-{}:".format(i+1))
    elm=int(input())
    lis.append(elm)
print("The entered list is ",lis)
for i in lis:
    if i>100:
```

```
        a.append(i)
    else:
        print("Over")
print("The values greater than 100 ",a)
```

OUTPUT:



RESULT:

Program to display list of integers has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:5
OCCURRENCES OF “a”
Date: 10/11/2022

AIM: Store a list of first names. Count the occurrences of ‘a’ within the list.

ALGORITHM:

Step 1: Start.

Step 2: Input an empty list and limit of list.

Step 3: Append each element to the list.

Step 4: Initialize count=0.

Step 5: Check the presence of “a” in the list. Update count.

Step 6: Print count.

Step 7: Stop.

SOURCE CODE:

```
list1=[]
len=int(input("Enter the number of names you want to insert "))
for i in range(0,len):
    print("Enter the name ",i+1," you want to insert ")
    fname=input()
    list1.append(fname)
    count_a=0
for names in list1:
    count_a+=names.count("a")
print("Occurrence of a in given list is",count_a)
```

OUTPUT:

```
IDLE Shell 3.11.0
File  Edit  Shell  Debug  Options  Window  Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========================= RESTART: C:\pyprgrms\aoccur.py =========================
Enter the number of names you want to insert 3
Enter the name  1  you want to insert
cena
Enter the name  2  you want to insert
dean
Enter the name  3  you want to insert
alberto
Occurrence of a in given list is 3
>>>
```

RESULT:

Program to count the occurrences of ‘a’ within the list has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:6
COMPARE TWO LIST
Date: 05/12/2022

AIM: Enter 2 lists of integers. Check
(a) Whether lists are of same length.
(b) whether list sums to same value.
(c) whether any value occur in both.

ALGORITHM:

Step 1: Start.
Step 2: Input two strings.
Step 3: Get the length of two strings. Compare the lengths and print.
Step 4: Find the sum of elements in the list and compare and print.
Step 5: Find the similar value occurrence and print.
Step 6: Stop.

SOURCE CODE:

```
def length(flist,slist):
    print("a.Length of list 1\t",len(flist))
    print("\tLength of list 2\t",len(slist))
    if len(flist)==len(slist):
        print("\tBoth list have same size")
    else:
        print("Different length ")


def sumoflist(flist,slist):
    s1=0
    s2=0
    for num in flist:
        s1+=num
    for num in slist:
        s2+=num
```

```
    if s1==s2:
        print("b.Sum are same ",s1," ,",s2)
    else:
        print("b.Sum are different for both list ",s1," ,",s2)

def findele(flist,slist):
    for num in flist:
        if num in slist:
            print("c.",num," found in both list\n")
flist=[]
slist=[]
len1=int(input("Enter the number of elements you want to add on list 1 "))
for i in range(0,len1):
    print("Enter the element ",i+1)
    inp=int(input())
    flist.append(inp)
len2=int(input("Enter the number of elements you want to add on list 2 "))
for i in range(0,len2):
    print("Enter the element ",i+1)
    inp=int(input())
    slist.append(inp)
length(flist,slist)
sumoflist(flist,slist)
findele(flist,slist)
```

OUTPUT:

```
IDLE Shell 3.11.0
File  Edit  Shell  Debug  Options  Window  Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======================= RESTART: C:\pyprgrms\cmpr2list.py =======================
Enter the number of elements you want to add on list 1 4
Enter the element  1
19
Enter the element  2
4
Enter the element  3
7
Enter the element  4
5
Enter the number of elements you want to add on list 2 3
Enter the element  1
15
Enter the element  2
5
Enter the element  3
15
a.Length of list 1       4
        Length of list 2         3
Different length
b.Sum are same  35  , 35
c. 5  found in both list

>>> |
```

RESULT:

Program to compare two list has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:7
CHARACTER REPLACE
Date: 05/12/2022

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

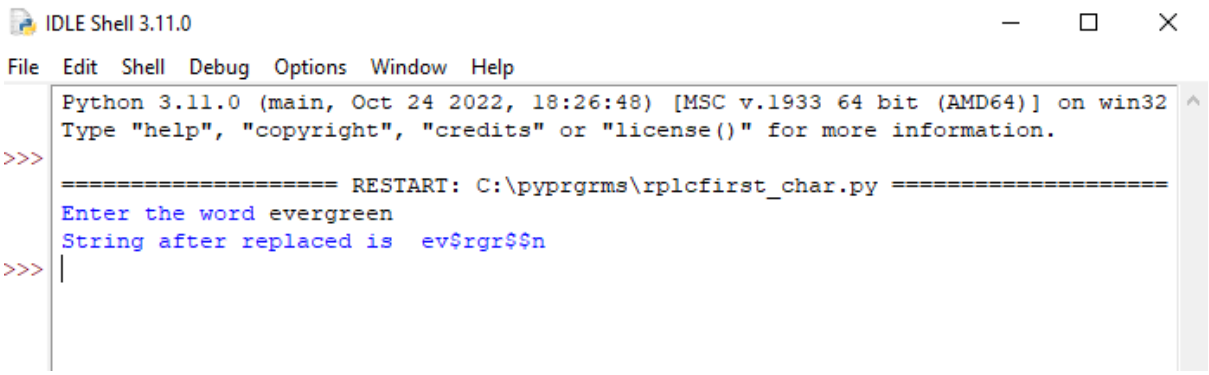
ALGORITHM:

Step 1: Start.
Step 2: Input the string.
Step 3: Replace the character with ‘$’ using replace().
Step 4: Print string.
Step 5: Stop.

SOURCE CODE:

```
a=input("Enter the word ")
for i in range(1,len(a)):
    b =a[0]+a[1:].replace(a[0], '$')
print("String after replaced is ",b)
```

OUTPUT:



RESULT:

Program to replace character has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:8
SWAP CHARACTERS
Date: 05/12/2022

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

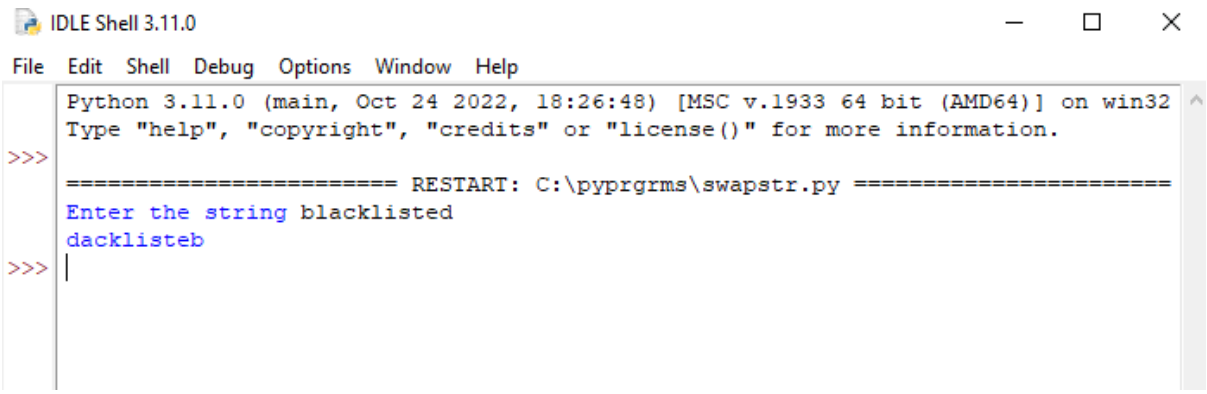
ALGORITHM:

Step 1: Start.
Step 2: Input a string to a variable.
Step 3: Define a function,
Store last, first and middle character to a variable.
Print swapped string.
Step 4: Stop.

SOURCE CODE:

```
def swap(str1):

    # storing the first character
    start = str1[0]

    # storing the last character
    end = str1[-1]

    swapped_string = end + str1[2:-1] + start
    print(swapped_string)


a=input("Enter the string ")
swap(a)
```

OUTPUT:



RESULT:

Program to swap first and last character of a string has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:9
AREA OF CIRLCE
Date: 05/12/2022

AIM: Accept the radius from user and find area of circle.

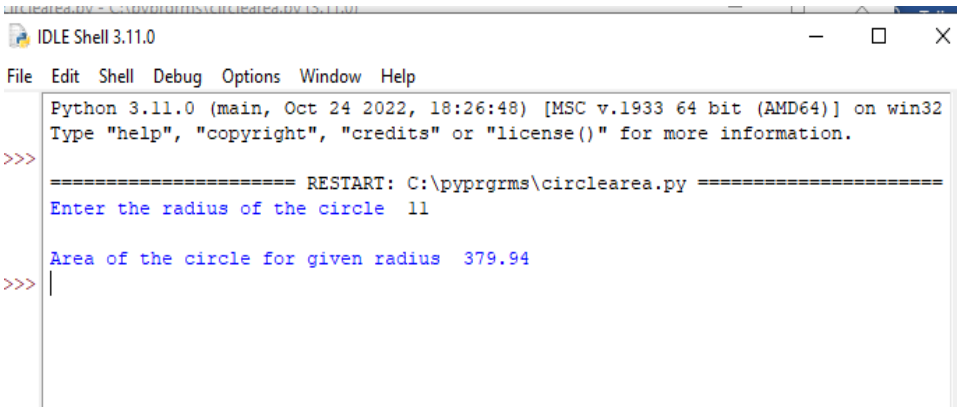
ALGORITHM:

Step 1: Start.
Step 2: Input radius.
Step 3: Compute $3.14*r^{2.}$
Step 4: Print result.
Step 5: Stop.

SOURCE CODE:

```
r=float(input("Enter the radius of the circle\t"))

area=3.14*r**2

print("\nArea of the circle for given radius ",area)
```

OUTPUT:



RESULT:

Program to find area of circle has been executed successfully and output is verified.

LABCYCLE 1

EXPERIMENT NO:10
BIGGEST OF 3 NUMBERS
Date: 05/12/2022

AIM: Find biggest of three numbers entered.

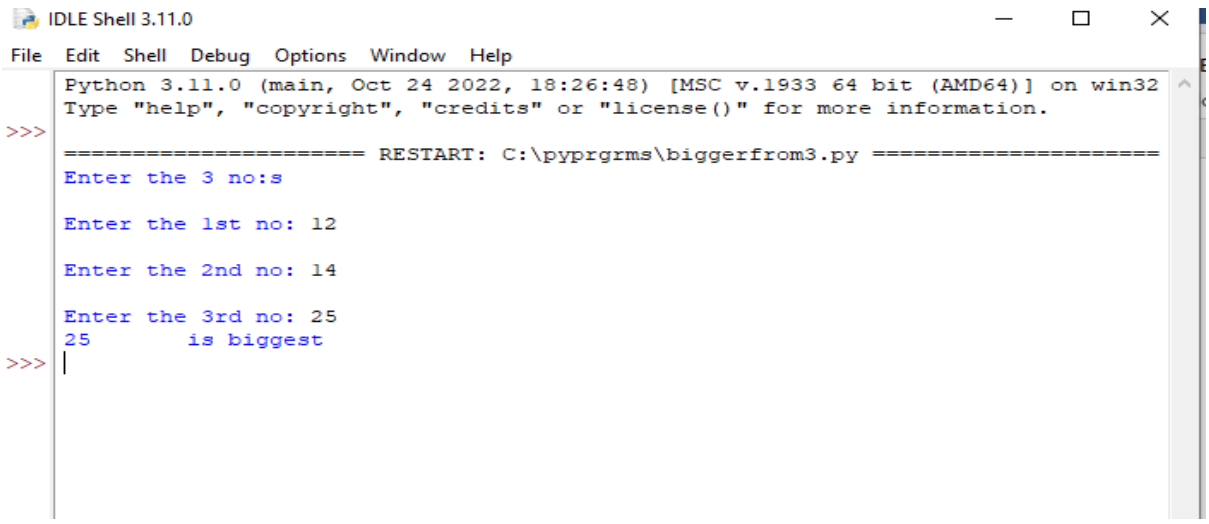
ALGORITHM:

Step 1: Start.
Step 2: Input 3 numbers.
Step 3: Check
    If a>b and a>c:
        Print(a)
    If b>a and b>c:
        Print(b)
    Else:
        Print(c)
Step 4: Stop.

SOURCE CODE:

```
print("Enter the 3 no:s")
a=int(input("\nEnter the 1st no: "))
b=int(input("\nEnter the 2nd no: "))
c=int(input("\nEnter the 3rd no: "))
if a>b and a>c:
   print(a,"\t is biggest")
elif b>a and b>c:
   print(b,"\t is biggest")
else:
   print(c,"\t is biggest")
```

OUTPUT:



RESULT:

Program to find biggest of three numbers has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:11
GET FILE EXTENSION
Date: 05/12/2022

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

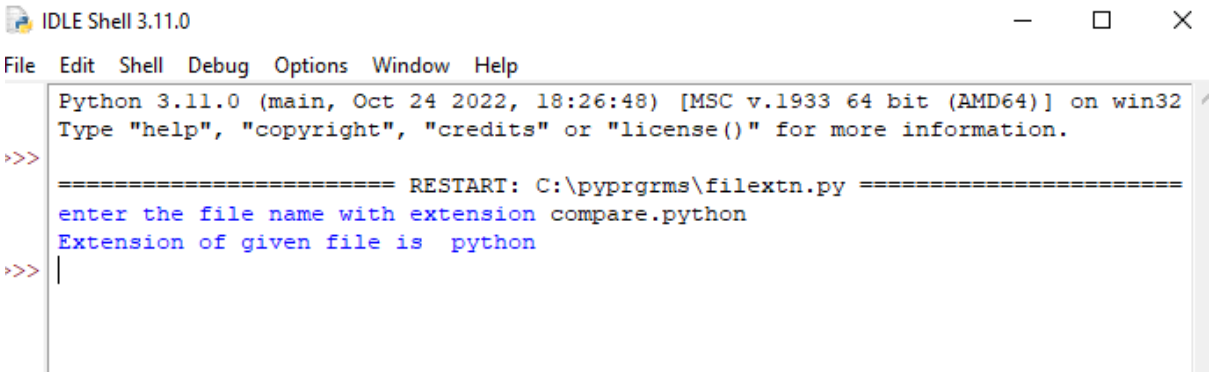
ALGORITHM:

Step 1: Start.
Step 2: Input a file name.
Step 3: Store the file name extension using split().
Step 4: Print extension.
Step 5: Stop.

SOURCE CODE:

```
filename=input("enter the file name with extension")
extns=filename.split(".")
print("Extension of given file is ",extns[-1])
```

OUTPUT:



RESULT;

Program to get file extension has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:12
LIST OF COLOURS NAME
Date: 05/12/2022

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

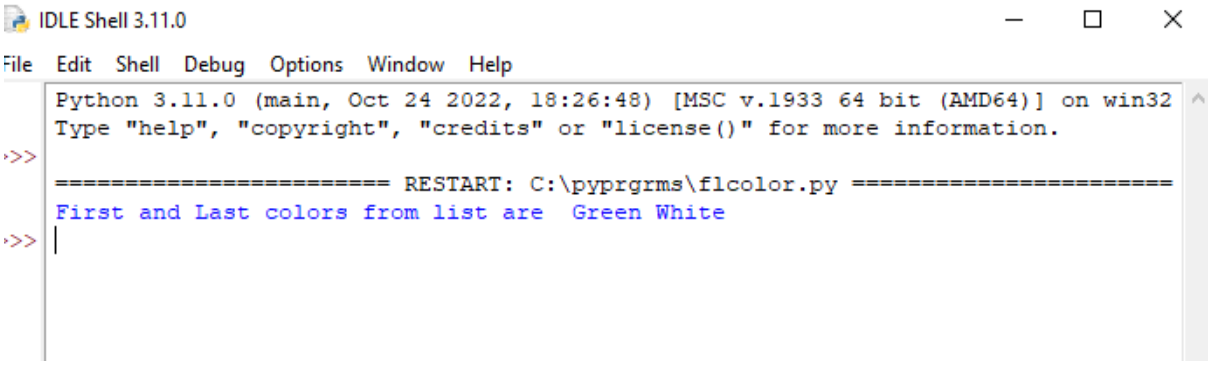
ALGORITHM:

Step 1: Start.
Step 2: Input a list containing name of colors.
Step 3: Store first and last element of list value and print.
Step 4: Stop.

SOURCE CODE:

```
clr=["Green","Red","White"]
print("First and Last colors from list are ",clr[0],clr[-1])
```

OUTPUT:



RESULT:

Program to display first and last colors has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:13
COMPUTE EXPRESSION.
Date: 05/12/2022

AIM: Accept an integer n and compute n+nn+nnn.

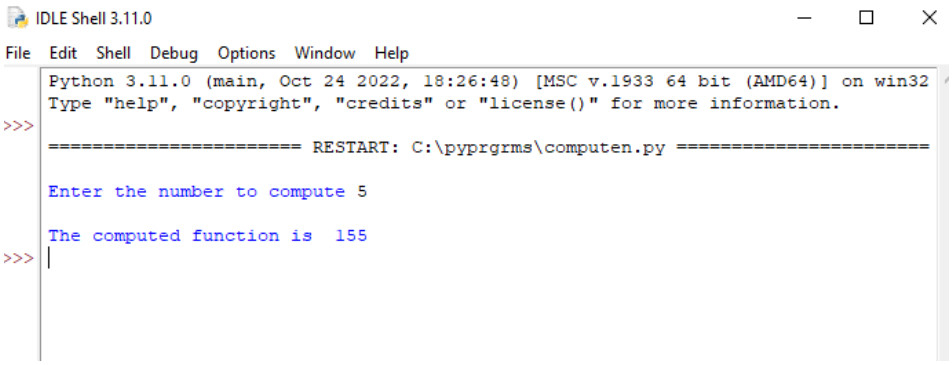
ALGORITHM:

Step 1: Start.
Step 2: Input value of n, initialize a variable s =0 to store sum of the expression.
Step 3: Compute s=s+n**i with range(1,4).
Step 4: Print result.
Step 5: Stop.

SOURCE CODE:

```
n=int(input("\nEnter the number to compute"))
s=0
for i in range(1,4):
    s=s+n**i
print("\nThe computed function is ",s)
```

OUTPUT:



RESULT:

Program to compute a function has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:14
DISPLAY DIFFERENCE OF TWO LIST
Date: 05/12/2022

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

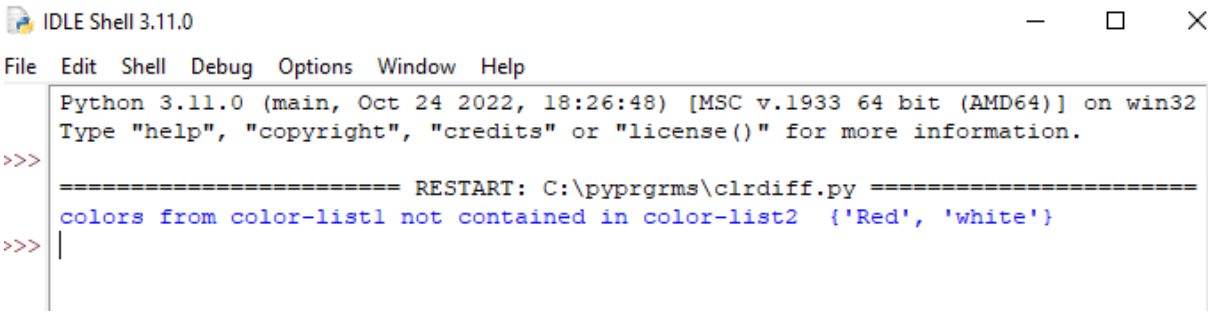
ALGORITHM:

Step 1: Start.
Step 2: Input two list with elements as set().
Step 3: Using difference() .
Print list of elements.
Step 4: Stop.

SOURCE CODE:

```
clr1=set(["Green","Red","white"])
clr2=set(["Pink","Aqua","Green"])
print("colors from color-list1 not contained in color-list2 ",clr1.difference(clr2))
```

OUTPUT:



RESULT:

Program to display difference of list has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:15
SWAP TWO STRINGS
Date: 05/12/2022

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

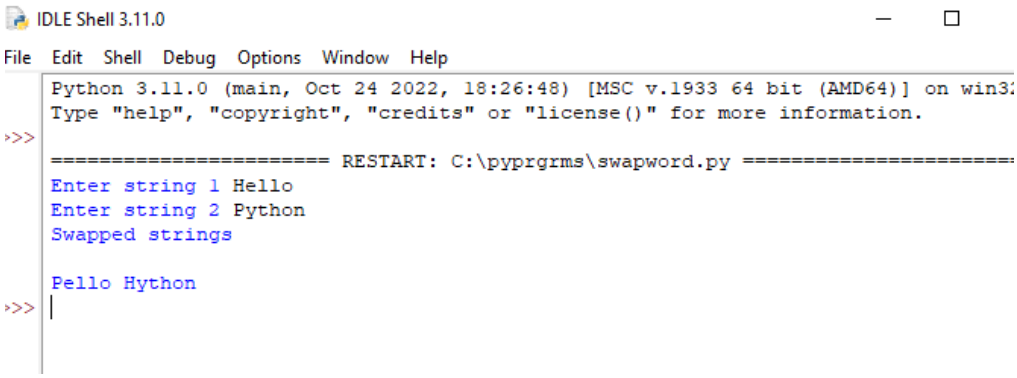
ALGORITHM:

Step 1: Start.
Step 2: Define function to swap.
Step 3: Store each string to new variable.
Step 4: Print resulted string.
Step 5: Input two string.
Step 6: Call the function.
Step 7: Stop.

SOURCE CODE:

```
def charswap(a, b):
  new_a = b[:1] + a[1:]
  new_b = a[:1] + b[1:]

  return new_a + ' ' + new_b

a=input("Enter string 1 ")
b=input("Enter string 2 ")
print("Swapped strings\n")
print(charswap(a,b))
```

OUTPUT:



RESULT:

Program to swap string character has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:16
SORT DICTIONARY
Date: 08/12/2022

AIM: Sort dictionary in ascending and descending order.

ALGORITHM:

Step 1: Start.
Step 2: Input a dictionary.
Step 3: Convert a given dictionary to list, l.
Step 4: To sort in ascending order.
Call l.sort()
For descending order.
Call l.sort(reverse=True)
Step 5: dict=dict(1).
Step 6: Stop.

SOURCE CODE:

```
d = {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}
print('Original dictionary : ',d)
l=list(d.items())
  #convert the given dict. into list

l.sort()          #sort the list
print("Ascending order is ",l)

l=list(d.items())
l.sort(reverse=True) #sort in reverse order
print("Descending order is ",l)


dict=dict(l) # convert the list in dictionary

print("Dictionary ",dict)
```

OUTPUT:

```
IDLE Shell 3.11.0
File  Edit  Shell  Debug  Options  Window  Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
======================== RESTART: C:\pyprgrms\dictsort.py ========================
Original dictionary :  {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}
Ascending order is [(0, 0), (1, 2), (2, 1), (3, 4), (4, 3)]
Descending order is [(4, 3), (3, 4), (2, 1), (1, 2), (0, 0)]
Dictionary {4: 3, 3: 4, 2: 1, 1: 2, 0: 0}
>>>
```

RESULT:

Program to sort dictionary has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:17
MERGE DICTIONARY
Date: 08/12/2022

AIM: Merge two dictionaries.

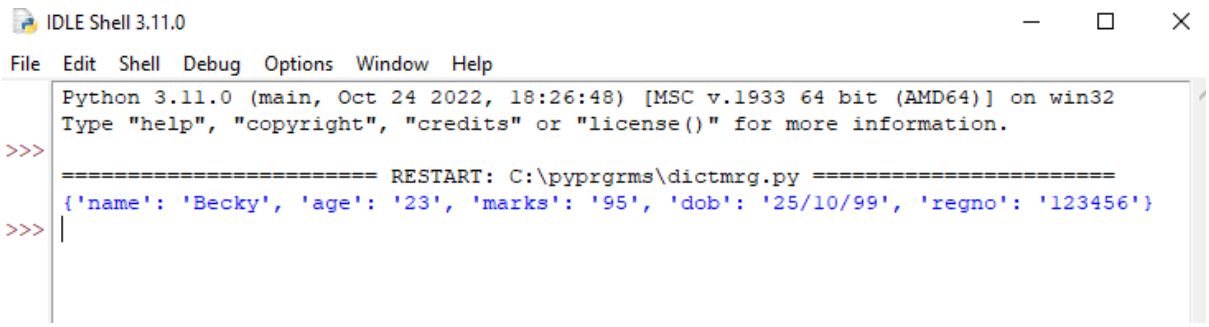
ALGORITHM:

Step 1: Start.
Step 2: Input 2 dictionaries d and c.
Step 3: Call update()
d.update(c)
Step 4: Print(d).
Step 5: Stop.

SOURCE CODE:

```
d={"name":"Becky","age":"23","marks":"95"}

c={"dob":"25/10/99","regno":"123456"}
d.update(c)
print(d)
```

OUTPUT:



RESULT:

Program to merge two dictionaries has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:18
GCD OF 2 NUMBERS
Date: 08/12/2022

AIM: Find GCD of two numbers

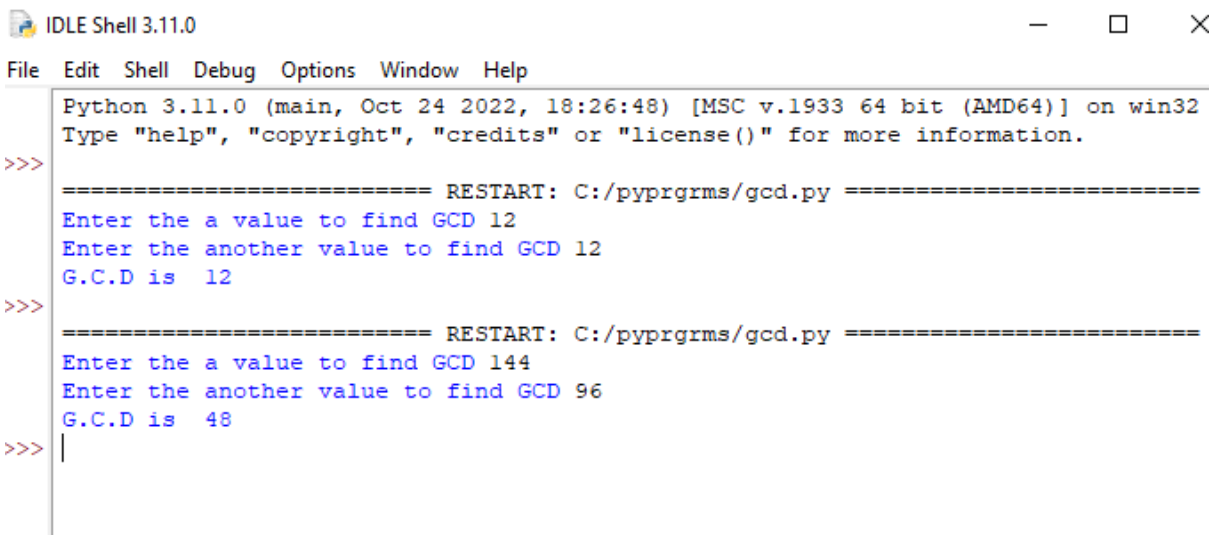
ALGORITHM:

Step 1: Start.
Step 2: Define function.
Step 3: Check if x>y set
s=y
else set
s=x
Step 4: Check until 1,s+1
if ((x%i==0) and (y%i==0))
Print gcd
Step 5: Call function.
Step 6: Stop.

SOURCE CODE:

```
def compute_gcd(x,y):
    if x>y:
        s=y

    else:
        s=x

    for i in range(1,s+1):
        if ((x%i==0) and (y%i==0)) :
            gcd=i
    print("G.C.D is ",gcd)
a=int(input("Enter the a value to find GCD "))
b=int(input("Enter the another value to find GCD "))
compute_gcd(a,b)
```

OUTPUT:



RESULT:

Program to find GCD has been executed successfully and output is verified.

LABCYCLE 1
EXPERIMENT NO:19
LIST OF EVEN INTEGERS
Date: 08/12/2022

AIM: From a list of integers, create a list removing even numbers.

ALGORITHM:

Step 1: Start.
Step 2: Input limit of list,n.
Step 3: Append element to the list until 0,n.
Step 4: Check, for i l.
i%2!=0 then,
Append to list even.
Step 5: Print even.
Step 6: Stop.

SOURCE CODE:

```
l=[]
even=[]
n=int(input("Enter the limit of list "))
print("Enter the integers into the list ")
for i in range(0,n):
    print("Enter the element no: -{}".format(i+1))
    elm=int(input())
    l.append(elm)
print("List of  integers are ",l)
for i in l:
    if i%2!=0:
        even.append(i)
print("List of integers removing even numbers are ",even)
```

OUTPUT

```
IDLE Shell 3.11.0
File  Edit  Shell  Debug  Options  Window  Help
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>
======================== RESTART: C:/pyprgrms/evnelist.py ========================
Enter the limit of list 6
Enter the integers into the list
Enter the element no: -1
12
Enter the element no: -2
11
Enter the element no: -3
77
Enter the element no: -4
83
Enter the element no: -5
48
Enter the element no: -6
112
List of  integers are  [12, 11, 77, 83, 48, 112]
List of integers removing even numbers are  [11, 77, 83]
>>
```

RESULT:

Program to display list of integers removing even numbers has been executed successfully and output is verified.