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0907-23-17186

2DO CICLO SECCION B

INGENIERIA EN SISTEMAS

PROGRAMAS Y EJERCICIOS PHYTON

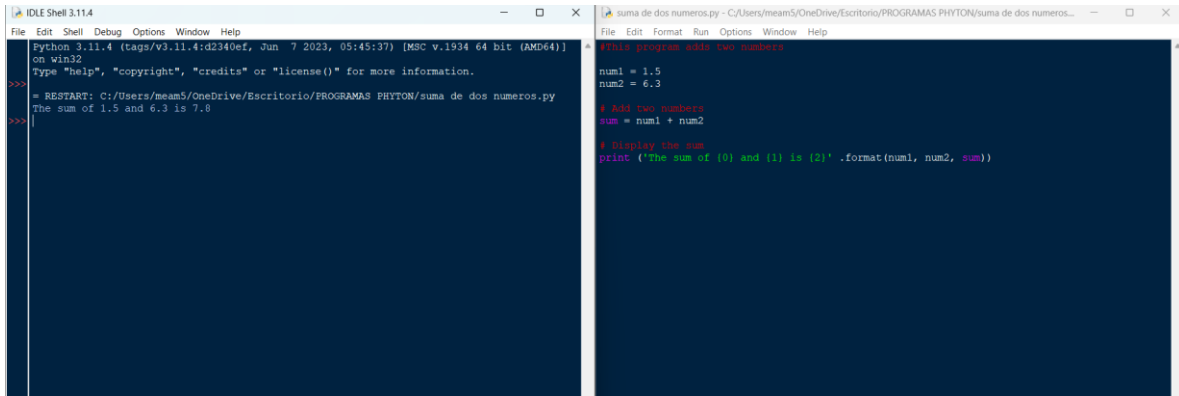
INGENIERO CARLOS HERNANDEZ

ALGORITMO

LINK GIT HUB

<https://github.com/Mynor-Alonso-1992/-PROGRAMAS-Y-EJERCICIOS-PHYTON.git>

SUMA DE 2 NUMEROS



```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PHYTON/suma de dos numeros.py
The sum of 1.5 and 6.3 is 7.8
>>>
```

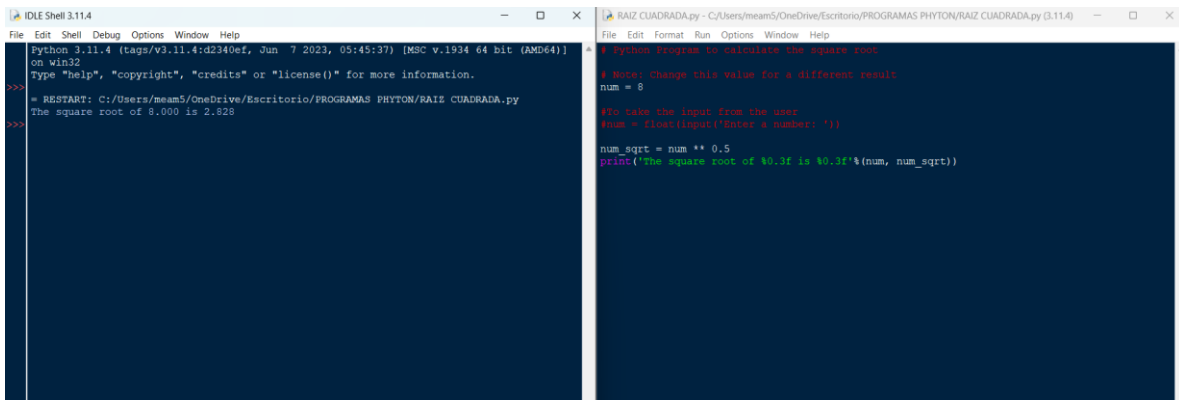
```
#Python program with two numbers

num1 = 1.5
num2 = 6.3

# Add two numbers
sum = num1 + num2

# Display the sum
print ("The sum of {0} and {1} is {2}".format(num1, num2, sum))
```

RAIZ CUADRADA



```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PHYTON/RAIZ CUADRADA.py
The square root of 8.000 is 2.828
>>>
```

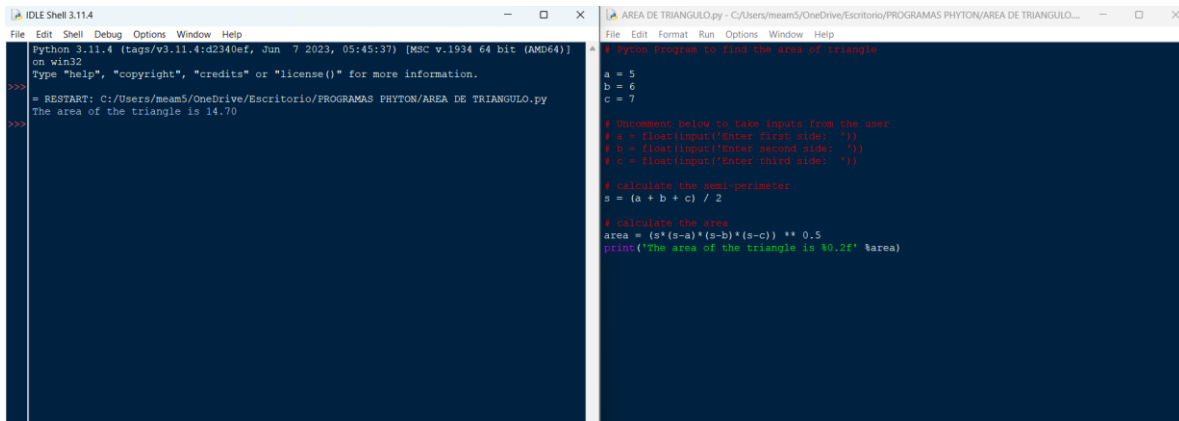
```
# Python Program to calculate the square root

# Note: Change this value for a different result
num = 8

# To take the input from the user
#num = float(input("Enter a number: "))

num_sqrt = num ** 0.5
print('The square root of %0.3f is %0.3f'%(num, num_sqrt))
```

AREA DE TRIANGULO



The image shows two side-by-side screenshots of Python IDEs. The left window is titled 'IDLE Shell 3.11.4' and shows the command prompt output of a Python script. The right window is titled 'AREA DE TRIANGULO.py' and shows the source code of the script.

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/AREA DE TRIANGULO.py
The area of the triangle is 14.70
>>>
```

```
# Python Program to find the area of triangle

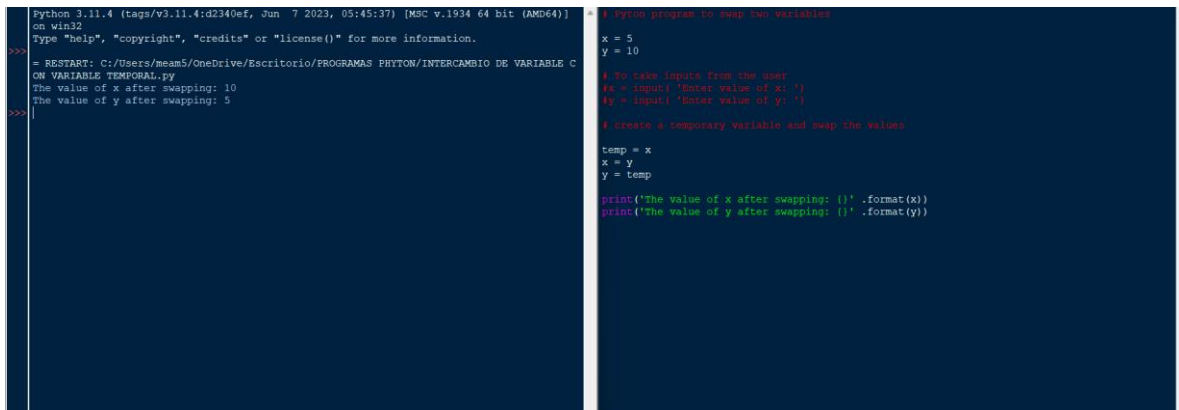
a = 5
b = 6
c = 7

# Uncomment below to take inputs from the user
# a = float(input('Enter first side: '))
# b = float(input('Enter second side: '))
# c = float(input('Enter third side: '))

# calculate the semi-perimeter
s = (a + b + c) / 2

# calculate the area
area = (s*(s-a)*(s-b)*(s-c)) ** 0.5
print("The area of the triangle is %0.2f" %area)
```

INTERCAMBIO DE VARIABLE CON VARIABLE TEMPORAL



The image shows two side-by-side screenshots of Python IDEs. The left window is titled 'IDLE Shell 3.11.4' and shows the command prompt output of a Python script. The right window is titled 'Python program to swap two variables' and shows the source code of the script.

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/INTERCAMBIO DE VARIABLE C
ON VARIABLES TEMPORAL.py
The value of x after swapping: 10
The value of y after swapping: 5
>>>
```

```
# Python program to swap two variables

x = 5
y = 10

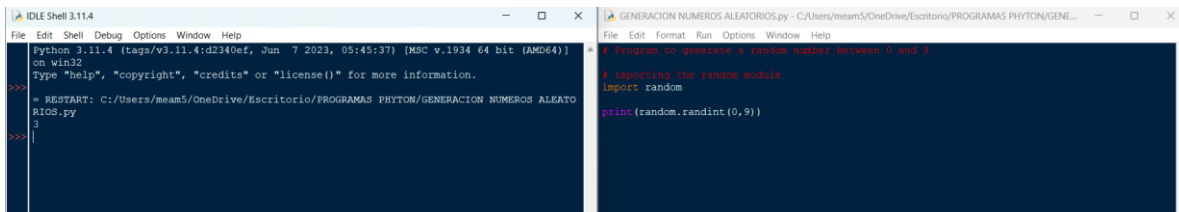
# To take inputs from the user
# x = input('Enter value of x: ')
# y = input('Enter value of y: ')

# create a temporary variable and swap the values

temp = x
x = y
y = temp

print('The value of x after swapping: {}'.format(x))
print('The value of y after swapping: {}'.format(y))
```

GENERACION NUMEROS ALEATORIOS



The image shows two side-by-side screenshots of Python IDEs. The left window is titled 'IDLE Shell 3.11.4' and shows the command prompt output of a Python script. The right window is titled 'GENERACION NUMEROS ALEATORIOS.py' and shows the source code of the script.

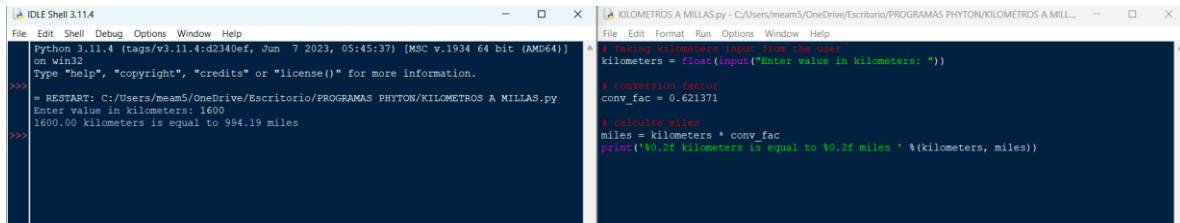
```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/GENERACION NUMEROS ALEATO
RIOS.py
3
>>>
```

```
# Program to generate a random number between 0 and 9

# importing the random module
import random

print(random.randint(0,9))
```

KILOMETROS A MILLAS



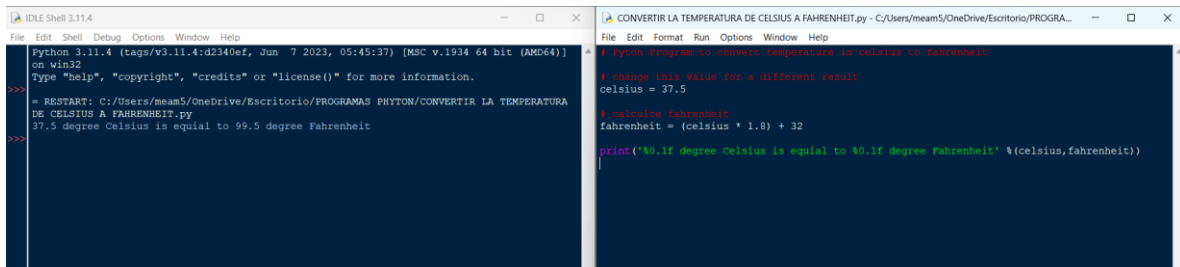
```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/KILOMETROS A MILLAS.py
Enter value in kilometers: 1600
1600.00 kilometers is equal to 994.19 miles
>>>
```

```
File Edit Format Run Options Window Help
# taking kilometers input from the user
kilometers = float(input("Enter value in kilometers: "))

# conversion factor
conv_fac = 0.621371

# calculate miles
miles = kilometers * conv_fac
print('%0.2f kilometers is equal to %0.2f miles ' %(kilometers, miles))
```

CONVERTIR LA TEMPERATURA DE CELSIUS A FAHRENHEIT

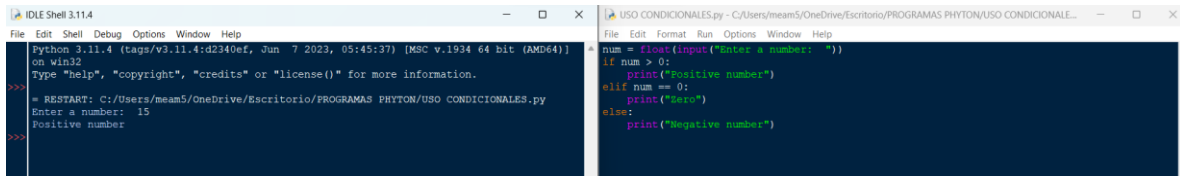


```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/CONVERTIR LA TEMPERATURA DE CELSIUS A FAHRENHEIT.py
37.5 degree Celsius is equal to 99.5 degree Fahrenheit
>>>
```

```
File Edit Format Run Options Window Help
# Python Program to convert temperature in Celsius to Fahrenheit
# change this value for a different result
celsius = 37.5

# calculate fahrenheit
fahrenheit = (celsius * 1.8) + 32
print('%0.1f degree Celsius is equal to %0.1f degree Fahrenheit' %(celsius,fahrenheit))
```

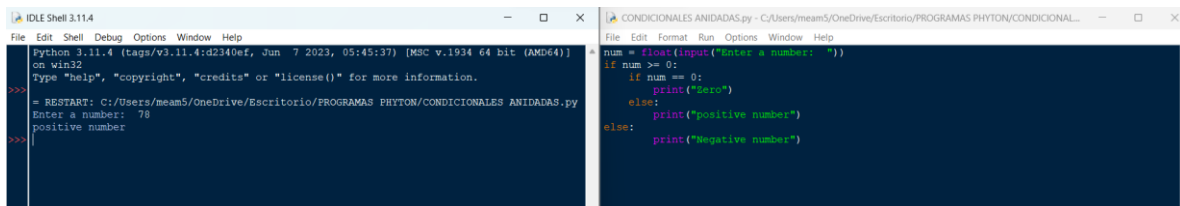
USO CONDICIONALES



```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/USO CONDICIONALES.py
Enter a number: 15
Positive number
>>>
```

```
File Edit Format Run Options Window Help
num = float(input("Enter a number: "))
if num > 0:
    print("positive number")
elif num == 0:
    print("zero")
else:
    print("negative number")
```

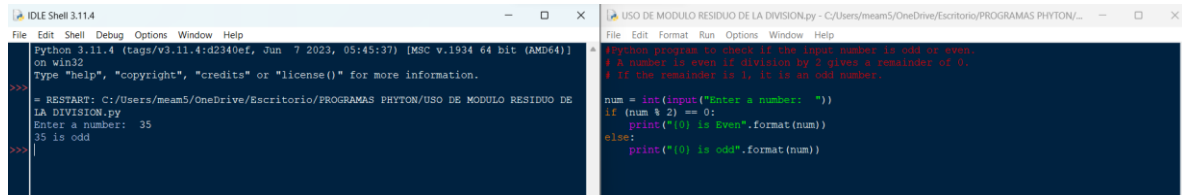
CONDICIONALES ANIDADAS



```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/CONDICIONALES ANIDADAS.py
Enter a number: 78
positive number
>>>
```

```
File Edit Format Run Options Window Help
num = float(input("Enter a number: "))
if num >= 0:
    if num == 0:
        print("zero")
    else:
        print("positive number")
else:
    print("negative number")
```

USO DE MODULO (RESIDUO DE LA DIVISION)

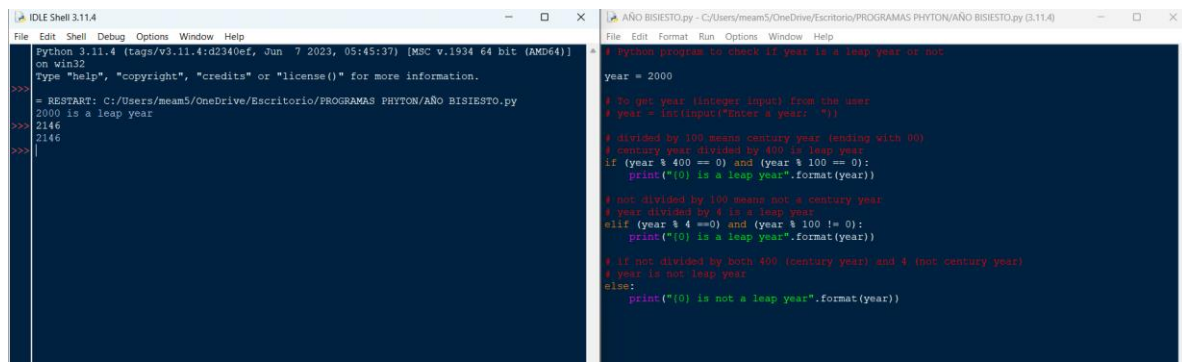


```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/USO DE MODULO RESIDUO DE LA DIVISION.py
Enter a number: 35
35 is odd
>>>
```

```
# Python program to check if the input number is odd or even.
# A number is even if division by 2 gives a remainder of 0.
# If the remainder is 1, it is an odd number.

num = int(input("Enter a number: "))
if (num % 2) == 0:
    print("{} is Even".format(num))
else:
    print("{} is odd".format(num))
```

AÑO BISIESTO



```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/AÑO BISIESTO.py
2000 is a leap year
>>>
2146
2146 is not a leap year
>>>
2146
2146 is not a leap year
>>>
```

```
# Python program to check if year is a leap year or not

year = 2000

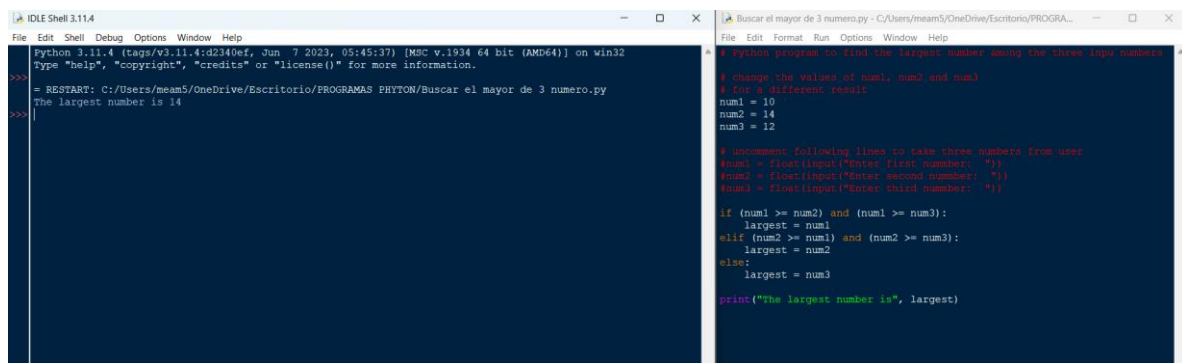
# To get year (integer input) from the user
year = int(input("Enter a year: "))

# divided by 100 means century year (ending with 00)
# century year divided by 400 is leap year
if (year % 400 == 0) and (year % 100 == 0):
    print("{} is a leap year".format(year))

# not divided by 100 means not a century year
# year divided by 4 is a leap year
elif (year % 4 == 0) and (year % 100 != 0):
    print("{} is a leap year".format(year))

# if not divided by both 400 (century year) and 4 (not century year)
# year is not leap year
else:
    print("{} is not a leap year".format(year))
```

EL MAYOR DE 3 NUMEROS



```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PYTHON/Buscar el mayor de 3 numero.py
The largest number is 14
>>>
```

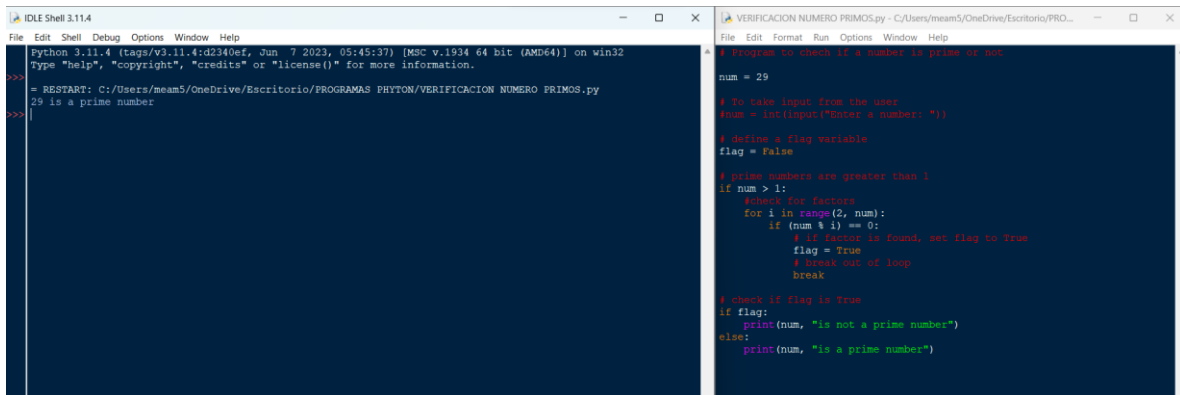
```
# Python program to find the largest number among the three input numbers
# change the values of num1, num2 and num3
# for a different result
num1 = 10
num2 = 14
num3 = 12

# uncomment following lines to take three numbers from user
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
num3 = float(input("Enter third number: "))

if (num1 >= num2) and (num1 >= num3):
    largest = num1
elif (num2 >= num1) and (num2 >= num3):
    largest = num2
else:
    largest = num3

print("The largest number is", largest)
```

VERIFICACION NUMERO PRIMOS

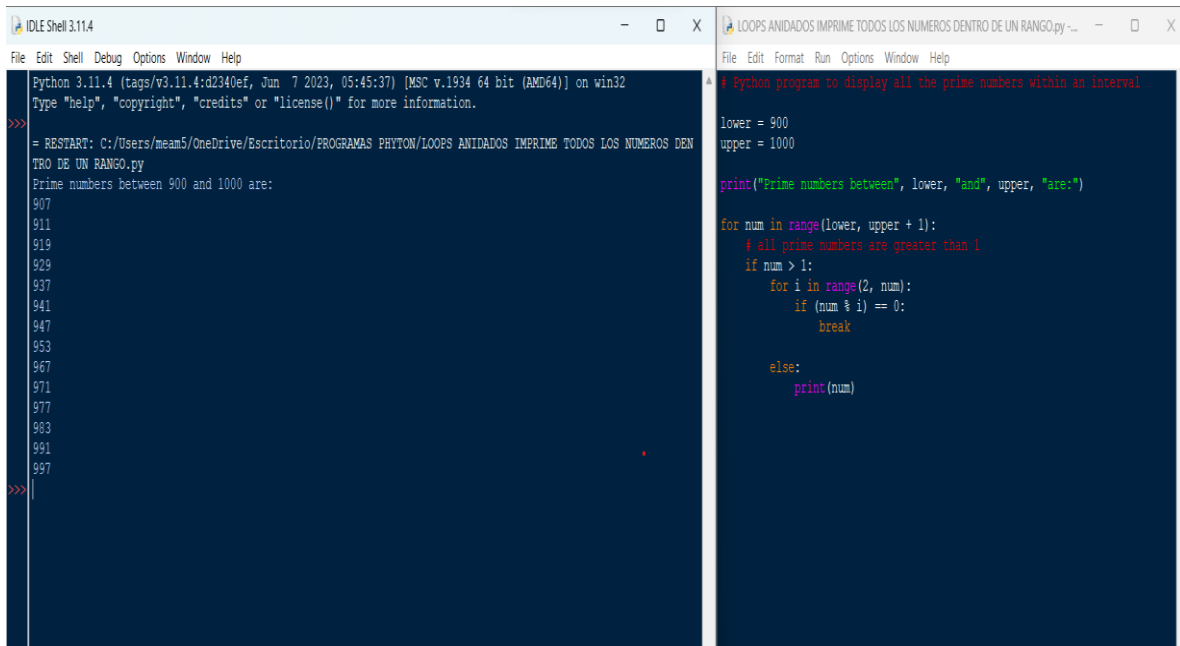


The image shows two windows from an IDE. The left window is a terminal titled 'IDLE Shell 3.11.4' showing the execution of a Python script. The right window is a code editor titled 'VERIFICACION NUMERO PRIMOS.py' showing the source code of the script.

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PHYTON/VERIFICACION NUMERO PRIMOS.py
>>> 29 is a prime number
>>>
```

```
# Program to check if a number is prime or not
num = 29
# To take input from the user
num = int(input("Enter a number: "))
# define a flag variable
flag = False
# prime numbers are greater than 1
if num > 1:
    # check for factors
    for i in range(2, num):
        if (num % i) == 0:
            # if factor is found, set flag to True
            flag = True
            # break out of loop
            break
# check if flag is True
if flag:
    print(num, "is not a prime number")
else:
    print(num, "is a prime number")
```

LOOPS ANIDADOS: imprime todos los números en un rango



The image shows two windows from an IDE. The left window is a terminal titled 'IDLE Shell 3.11.4' showing the execution of a Python script that prints prime numbers between 900 and 1000. The right window is a code editor titled 'LOOPS ANIDADOS IMPRIME TODOS LOS NUMEROS DENTRO DE UN RANGO.py' showing the source code of the script.

```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/meam5/OneDrive/Escritorio/PROGRAMAS PHYTON/LOOPS ANIDADOS IMPRIME TODOS LOS NUMEROS DENTRO DE UN RANGO.py
>>> Prime numbers between 900 and 1000 are:
>>> 907
>>> 911
>>> 919
>>> 929
>>> 937
>>> 941
>>> 947
>>> 953
>>> 967
>>> 971
>>> 977
>>> 983
>>> 991
>>> 997
>>>
```

```
# Python program to display all the prime numbers within an interval
lower = 900
upper = 1000
print("Prime numbers between", lower, "and", upper, "are:")
for num in range(lower, upper + 1):
    # all prime numbers are greater than 1
    if num > 1:
        for i in range(2, num):
            if (num % i) == 0:
                break
        else:
            print(num)
```