**BÀI TẬP THỰC HÀNH SỐ 1**

**Lập trình Python căn bản**

**1.Formatted Twinkle Poem**

Write a Python program to print the following string in a specific format (see the output).  
*Sample String :* "Twinkle, twinkle, little star, How I wonder what you are! Up above the world so high, Like a diamond in the sky. Twinkle, twinkle, little star, How I wonder what you are"  
*Output :*

Twinkle, twinkle, little star,

How I wonder what you are!

Up above the world so high,

Like a diamond in the sky.

Twinkle, twinkle, little star,

How I wonder what you are

**Program:**

a="Twinkle, twinkle, little star,"

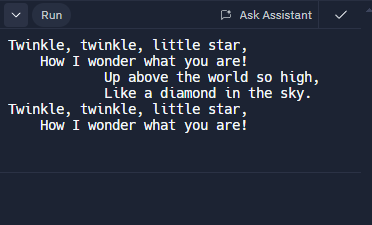
b="How I wonder what you are!"

c="Up above the world so high,"

d="Like a diamond in the sky."

print(f"{a}\n\t{b}\n\t\t\t{c}\n\t\t\t{d}\n{a}\n\t{b}")

**Result:**

****

**2. Python Version Checker**

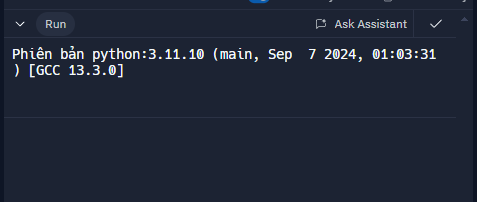
Write a Python program to find out what version of Python you are using.

**Program:**

import sys

print("Phiên bản python:"+sys.version)

**Result:**

****

**3. Current DateTime Display**

Write a Python program to display the current date and time.

Sample Output :

Current date and time :

2014-07-05 14:34:14

**Program**

import datetime

x=datetime.datetime.now()

print(f"thời gian bây giờ là:{x}")

**Result**

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**4. Circle Area Calculator**

Write a Python program that calculates the area of a circle based on the radius entered by the user.  
Sample Output :  
r = 1.1  
Area = 3.8013271108436504

**Program:**

import math

def s\_hinh\_tron(n):

tich=0

Pi=math.pi

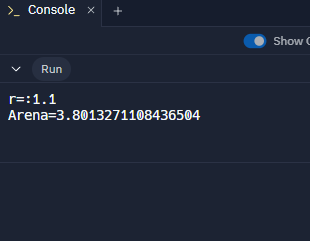
tich=n\*n\*Pi

return tich

n=float(input("r=:"))

print(f"Arena={s\_hinh\_tron(n)}")

**Result:**

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**5. Reverse Full Name**

Write a Python program that accepts the user's first and last name and prints them in reverse order with a space between them.

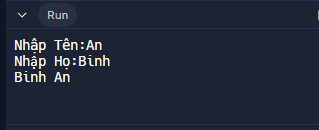
**Program:**

a=input("Nhập Tên:").strip()

b=input("Nhập Họ:").strip()

print(f"{b} {a}")

**Result:**

****

**6. List and Tuple Generator**

Write a Python program that accepts a sequence of comma-separated numbers from the user and generates a list and a tuple of those numbers.  
Sample data : 3, 5, 7, 23  
Output :  
List : ['3', ' 5', ' 7', ' 23']  
Tuple : ('3', ' 5', ' 7', ' 23')

**Program**

n=input("Nhập chuỗi số tách nhau bởi dấu',':")

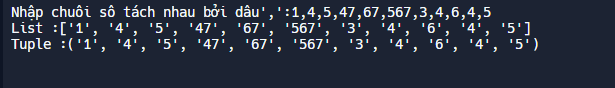
a=n.split(",")

b=tuple(a)

print(f"List :{a}")

print(f"Tuple :{b}")

**Result**

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**7. File Extension Extractor**

Write a Python program that accepts a filename from the user and prints the extension of the file.  
Sample filename : abc.java  
Output : java

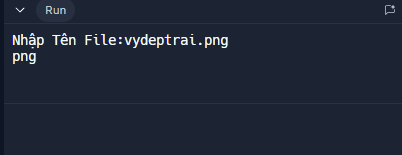
**Program**

filename=input("Nhập Tên File:")

t=filename.split('.')

print(t[1])

**Result**



**8. First and Last Colors**

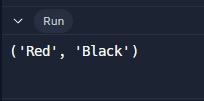
Write a Python program to display the first and last colors from the following list.  
color\_list = ["Red","Green","White" ,"Black"]

**Program:**

color\_list = ["Red","Green","White" ,"Black"]

afterlist = color\_list[0],color\_list[-1]

print(afterlist)



**9. Exam Schedule Formatter**

Write a Python program to display the examination schedule. (extract the date from exam\_st\_date).  
exam\_st\_date = (11, 12, 2014)  
Sample Output : The examination will start from : 11 / 12 / 2014

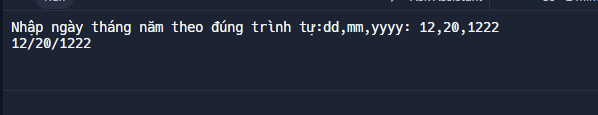
**Program**

date=input("Nhập ngày tháng năm theo đúng trình tự:dd,mm,yyyy: ")

daten=date.split(',')

print(f"{daten[0]}/{daten[1]}/{daten[2]}")

**Result:**



**10. Number Expansion Calculator**

Write a Python program that accepts an integer (n) and computes the value of n+nn+nnn.  
Sample value of n is 5Expected Result : 615

**Program**

def Tong(n):

tong = 0

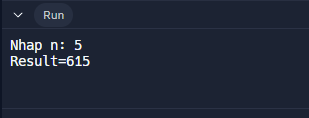
tong=n+(n\*11)+(n\*111)

return tong

n=int(input("Nhap n: "))

print(f"Result={Tong(n)}")

**Result**



**11. Function Documentation Printer**

Write a Python program to print the documents (syntax, description etc.) of Python built-in function(s).  
Sample function : abs()Expected Result :  
abs(number) -> number  
Return the absolute value of the argument.

**Program**

n=int(input("Enter the number: "))

def abs(n):

if(n>0):

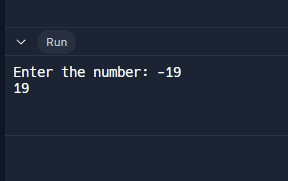
return n

else:

return -n

print(abs(n))

**Result:**

****

**12. Monthly Calendar Display**

Write a Python program that prints the calendar for a given month and year.  
Note : Use 'calendar' module.

**Program:**

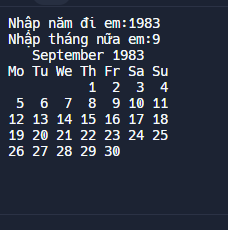
import calendar

nam=int(input("Nhập năm đi em:"))

Thang=int(input("Nhập tháng nữa em:"))

print(calendar.month(nam,Thang))

**Result:**



**13. Multi-line Here Document**

Write a Python program to print the following 'here document'.  
Sample string :  
a string that you "don't" have to escape  
This  
is a ....... multi-line  
heredoc string --------> example

**Program:**

text = """a string that you "don't" have to escape

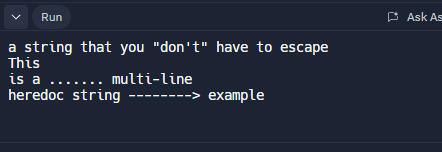
This

is a ....... multi-line

heredoc string --------> example"""

print(text)

**Result:**

****

**14. Days Between Dates**

Write a [Python](https://www.w3resource.com/python-exercises/python-basic-exercises.php) program to calculate the number of days between two dates.  
Sample dates : (2014, 7, 2), (2014, 7, 11)  
Expected output : 9 days

**Program:**

import datetime

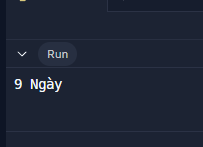
datetime1=datetime.date(2014,7,2)

datetime2=datetime.date(2014,7,11)

Result=datetime2-datetime1

print(f"{Result.days} Ngày")

**Result:**



**15. Sphere Volume Calculator**

Write a Python program to get the volume of a sphere with radius six.

**Program**

import math

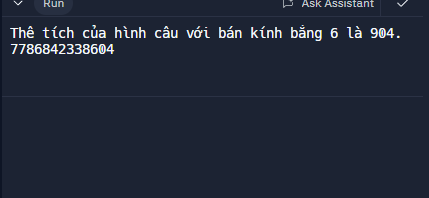
r=6

def uad(r):

return (4\*math.pi\*r\*\*3)/3

print(f"Thể tích của hình cầu với bán kính bằng 6 là {uad(r)}")

**Result:**



**16. Difference from 17**

Write a Python program to calculate the difference between a given number and 17. If the number is greater than 17, return twice the absolute difference.

**Program**

x=int(input("Nhập 1 số nguyên:"))

def main(x):

if x<=17:

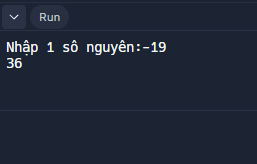
return abs(17-x)

else:

return abs(x-17)\*2

print(main(x))

**Result:**



**17. Number Range Tester**

Write a Python program to test whether a number is within 100 of 1000 or 2000.

**Program**

n=int(input("Nhập 1 số nguyên:"))

def tim\_so(n):

if 900<=n<=1100:

return True

elif 1900<=n<=2100:

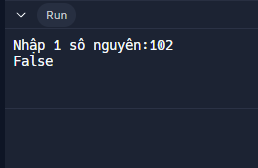
return True

else:

return False

print(tim\_so(n))

**Result:**



**18. Triple Sum Calculator**

Write a Python program to calculate the sum of three given numbers. If the values are equal, return three times their sum.

**Program:**

a=int(input("Nhập Số A:"))

b=int(input("Nhập Số B:"))

c=int(input("Nhập Số C:"))

def ct3so(a,b,c):

if a==b==c:

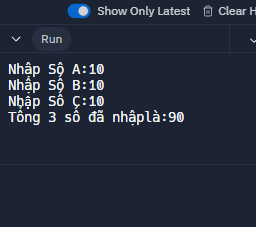
return 3\*(a+b+c)

else:

return a+b+c

print(f"Tổng 3 số đã nhậplà:{ct3so(a,b,c)}")

**Result:**



**19. Prefix "Is" String Modifier**

Write a Python program to get a newly-generated string from a given string where "Is" has been added to the front. Return the string unchanged if the given string already begins with "Is".

**Program:**

a=input("Nhập chuỗi: ")

def timChuoi(a):

if a.startswith('Is'):

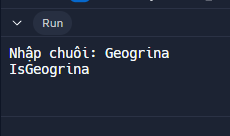
return a

else:

return "Is"+a

print(timChuoi(a))

Result:



**20. String Copy Generator**

Write a Python program that returns a string that is n (non-negative integer) copies of a given string.

Program

n=int(input("Bạn muốn tạo bản sao mấy lần:"))

chuoi=str(input("Nhập chuỗi:"))

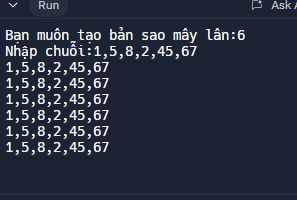
def lap\_chuoi(n):

for i in range(n):

print(f"{chuoi}")

lap\_chuoi(n)

Result



**21. Even or Odd Checker**

Write a Python program that determines whether a given number (accepted from the user) is even or odd, and prints an appropriate message to the user.

Program:

n=int(input("nhập 1 số nguyên dương:"))

def chan\_le(n):

if n%2==0:

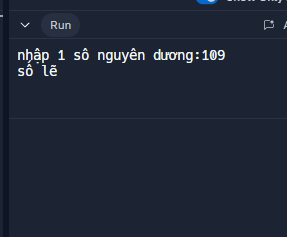
return "số chẵn"

else:

return "số lẽ"

print(chan\_le(n))

Result:



Bài 2: Viết hàm thực hiện các chức năng sau:

1. Tính:
2. (a + b),

Def TinhTong(a,b):

Print(a+b)

1. a/b,

Def Chia2so(a,b):

Print(a/b)

1. a b .

Def LuyThua(a,b):

Print(a\*\*b)

1. Tính diện tích hình chữ nhật khi biết bán kính

def DienTichChuNhat(a,b):

return (a\*b)

1. Tính diện tích hình tron khi biết bán kính

def DienTichChuNhat(r):

return (math.pi\*r\*r)

1. Xuất tất cả các số nguyên tố trong 1 khoảng cho trước

def SoNguyenTo(n):

if n < 2:

return False

for i in range(2, int(math.sqrt(n)) + 1):

if n % i == 0:

return False

return True

def SoNguyenToTrongKhoang(start, end):

return [n for n in range(start, end + 1) if is\_prime(n)]

1. Kiểm tra 1 số nguyên n có phải là số Fibonacci hay không

def is\_fibonacci(n):

def is\_perfect\_square(x):

s = int(math.sqrt(x))

return s \* s == x

return is\_perfect\_square(5 \* n \* n + 4) or is\_perfect\_square(5 \* n \* n - 4)

1. Tìm số Fibonacci thứ n (dùng đệ quy và không đệ quy)

def fibonacci\_de\_quy(n):

if n <= 1:

return n

return fibonacci\_de\_quy(n - 1) + fibonacci\_de\_quy(n - 2)

def fibonacci\_khong\_de\_quy(n):

a, b = 0, 1

for \_ in range(n):

a, b = b, a + b

return a

1. Tính tổng n số Fibonacci đầu tiên (dùng đệ quy và không đệ quy)

def tong\_fibonacci(n):

if n == 0:

return 0

return fibonacci\_khong\_de\_quy(n) + tong\_fibonacci\_de\_quy(n - 1)

1. Tính tổng căn bậc 2 của n số nguyên đầu tiên

def tong\_can\_bac\_hai(n):

return sum(math.sqrt(i) for i in range(1, n + 1))

1. Giải phương trình bậc 2: ax2 + bx + c=0

def giai\_phuong\_trinh\_bac\_hai(a, b, c):

delta = b \*\* 2 - 4 \* a \* c

if delta < 0:

return "Vo nghiem"

elif delta == 0:

return -b / (2 \* a)

else:

nghiem1 = (-b + math.sqrt(delta)) / (2 \* a)

nghiem2 = (-b - math.sqrt(delta)) / (2 \* a)

return nghiem1, nghiem2

1. Tính n!

def giai\_thua(n):

return math.factorial(n)

1. In \* dạng tam giác dưới như hình bên, đầu vào là số hàng(cột)

def in\_tam\_giac(n):

for i in range(1, n + 1):

print('\*' \* i)