Bài 1:

**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

**Giải:**

print("Twinkle, twinkle, little star,")

print("\tHow I wonder what you are!")

print("\t\tUp above the world so high,")

print("\t\tLike a diamond in the sky.")

print("Twinkle, twinkle, little star,")

print("\tHow I wonder what you are")

**2. Python Version Checker**

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

Giải:

import sys

print("Python version")

print(sys.version)

print("Python info.")

print(sys.version\_info)

**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

Giải:

import datetime  
now = datetime.datetime.now()

print("Ngày và giờ hiện tại")

print(now.strftime("%d-%m-%Y %H:%M:%S"))

**4. Circle Area Calculator**

Write a Python program that calculates the area of a circle based on the radius entered by the user.

Giaỉ :

from math import pi  
r = float(input("Input the radius of the circle : "))

area = pi \* r \*\* **2**

print("The area of the circle with radius " + str(r) + " is: " + str(area))

**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.

Giải:

firstname = input("Nhập họ: ")

lastname = input("Nhập tên: ")

print("Hello "+ lastname + " " + firstname)

**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.

Giải:

values = input("Nhập số cách nhau bởi dấu phẩy: ")

list = values.split(",")

tuple = tuple(list)

print('List : ', list)

print('Tuple : ', tuple)

**7. File Extension Extractor**

Write a Python program that accepts a filename from the user and prints the extension of the file.

Giải:

filename = input("Input the Filename: ")

f\_extns = filename.split(".")

print("The extension of the file is : " + repr(f\_extns[-**1**]))

**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"]

Bài làm:

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

print("%s %s" % (color\_list[**0**], color\_list[-**1**]))

**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)

Bài làm:

exam\_st\_date = (**8**, **1**, **2025**)

print("The examination will start from : %i / %i / %i" % exam\_st\_date)

**10. Number Expansion Calculator**

Write a Python program that accepts an integer (n) and computes the value of n+nn+nnn.

Bài làm:

n = int(input("Nhập một số nguyên: "))

n1 = int("%s" % n)

n2 = int("%s%s" % (n, n))

n3 = int("%s%s%s" % (n, n, n))

result = n1 + n2 + n3

print("Kết quả là:", 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 argumen

Bài làm:

***# Print the docstring (documentation) of the 'abs' function***

print(abs.**\_\_doc\_\_**)

import calendar  
y = int(input("Nhập năm: "))

m = int(input("Nhập tháng: "))

print(calendar.month(y,m))

**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

Bài làm:

print(**"""  
a string that you "don't" have to escape  
This  
is a  ....... multi-line  
heredoc string --------> example  
"""**)

**14. Days Between Dates**

Write a Python program to calculate the number of days between two dates.  
*Sample dates* : (2014, 7, 2), (2014, 7, 11)  
*Expected output*: 9 days

Bài làm:

from datetime import date  
f\_date = date(**2014**, **7**, **2**)

l\_date = date(**2014**, **7**, **11**)

delta = l\_date - f\_date

print(f"{delta.days} days")

**15. Sphere Volume Calculator**

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

Bài làm

pi = 3.1415926535897931

r = 6.0

V = 4.0/3.0 \* pi \* r\*\***3**

print('The volume of the sphere is: ', V)

**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.

Bài làm:

def **difference\_from\_17**(n):

    if n > **17**:

        return **2** \* abs(n - **17**)

    else:

        return abs(n - **17**)

number = int(input("Enter a number: "))

result = difference\_from\_17(number)

print(f"The result is: {result}")

**17. Number Range Tester**

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

Bài làm:

def **near\_thousand**(n):

    return ((abs(**1000** - n) <= **100**) or (abs(**2000** - n) <= **100**))

print(near\_thousand(**1000**))

print(near\_thousand(**900**))

print(near\_thousand(**800**))

print(near\_thousand(**2200**))

**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.

Bài làm:

def **sum\_three\_numbers**(a, b, c):

    if a == b == c:

        return **3** \* (a + b + c)

    else:

        return a + b + c

num1 = int(input("Nhập số thứ nhất: "))

num2 = int(input("Nhập số thứ hai: "))

num3 = int(input("Nhập số thứ ba: "))

result = sum\_three\_numbers(num1, num2, num3)

print(f"Kết quả là: {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".

Bài làm:

def **new\_string**(text):

    if len(text) >= **2** and text[:**2**] == "Is":

        return text

    else:

        return "Is" + text

print(new\_string("Array"))

print(new\_string("IsEmpty"))

**20. String Copy Generator**

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

Bài làm:

def **string\_copies**(string, n):

    if n < **0**:

        return

    else:

        return string \* n  
user\_string = input("Nhập một chuỗi: ")

n = int(input("Nhập số lần: "))

result = string\_copies(user\_string, n)

print(f"Chuỗi kết quả là: {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.

Bài làm:

num = int(input("Enter a number: "))

mod = num % **2**

if mod > **0**:

    print("This is an old number")

else:

    print("this is an even number")

**22. Count 4 in List**

Write a Python program to count the number 4 in a given list.

Bài làm:

def **count\_fours**(lst):

    return lst.count(**4**)

user\_list = input("Nhập các số trong danh sách, phân tách bằng dấu phẩy: ").split(',')

user\_list = [int(x) for x in user\_list]

num\_fours = count\_fours(user\_list)

print(f"Số lần xuất hiện của số 4 trong danh sách là: {num\_fours}")

**23. String Prefix Copies**

Write a Python program to get n (non-negative integer) copies of the first 2 characters of a given string. Return n copies of the whole string if the length is less than 2.

Bài làm:

def **substring\_copy**(text, n):

  flen = **2**

  if flen > len(text):

    flen = len(text)

  substr = text[:flen]

  result = ""

  for i in range(n):

    result = result + substr

  return result

print(substring\_copy('abcdef', **2**))

print(substring\_copy('p', **3**))

**24. Vowel Tester**

Write a Python program to test whether a passed letter is a vowel or not.

Bài làm:

def is\_vowel(char):

all\_vowels = 'aeiou'

return char in all\_vowels

print(is\_vowel('c'))

print(is\_vowel('e'))

**25. Value in Group Tester**

Write a Python program that checks whether a specified value is contained within a group of values.  
*Test Data* :  
3 -> [1, 5, 8, 3] : True  
-1 -> [1, 5, 8, 3] : False

Bài làm:

def is\_group\_member(group\_data, n):

for value in group\_data:

if n == value:

return True

return False

print(is\_group\_member([1, 5, 8, 3], 3))

print(is\_group\_member([5, 8, 3], -1))

**Bài 2:**

**1a.**

def tinh():

    a = float(input("Nhập số thực a: "))

    b = float(input("Nhập số thực b: "))

    kq = a + b

    print(f" {a} + {b} = {kq}")

tinh()

**1b.**

def tinh():

    a = float(input("Nhập số thực a: "))

    b = float(input("Nhập số thực b: "))

    kq = a / b

    print(f" {a} / {b} = {kq}")

tinh()

**1c.**

def **tinh**():

    a = float(input("Nhập số thực a: "))

    b = float(input("Nhập số thực b: "))

    kq = a \*\* b

    print(f" {a} \*\* {b} = {kq}")

tinh()

**2. Tính diện tích hình chữ nhật khi biết bán kính**

import math

def **tinh**():

    r = float(input("Nhập bán kính: "))

    kq = math.pi \* (r\*\***2**)

    print(f" Diện tích hình tròn có bán kính {r} là: {kq}")

tinh()

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