Syrian Arab Republic

Lattakia - Tishreen University

Department of Communication and electrical engineering

5th , Network Programming : Homework No1

الجمهورية العربية السورية

اللاذقية - جامعة تشريـــن

كلية الهندسة الكهربائية والميكانيكية

قسم هندسة الاتصالات والالكترونيات

السنة الخامسة: وظيفة1 برمجة شبكات

الاسم : حسن محمد محمد

الرقم : 2447

بإشراف الدكتور : مهند عيسى

Question 1: Python Basics?

A-If you have two lists, L1=[‘HTTP’,’HTTPS’,’FTP’,’DNS’] L2=[80,443,21,53], convert it to generate this dictionary **d={**‘HTTP’:80,’HTTPS’:443,’FTP’:21,’DNS’:53 **}**

B- Write a Python program that calculates the factorial of a given number entered by user.

C- L=[‘Network’ , ’Bio’ , ’Programming’, ‘Physics’ , ‘Music’]

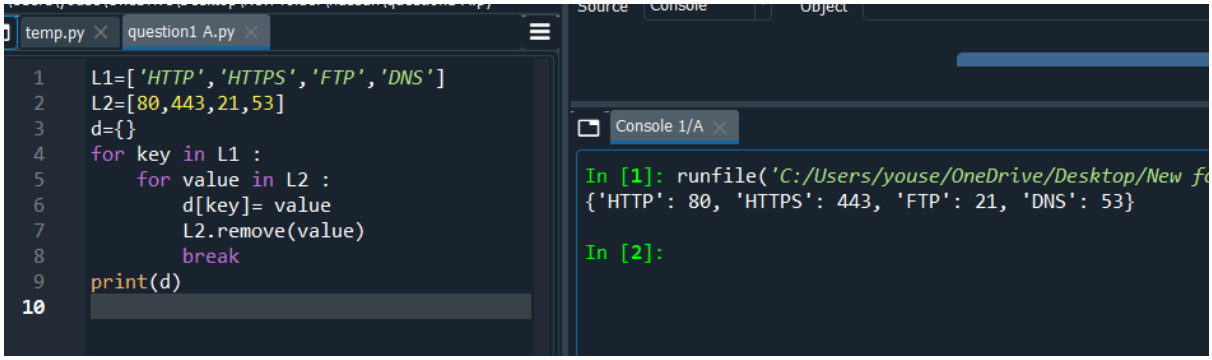
In this exercise, you will implement a Python program that reads the items of the previous list and identifies the items that starts with ‘B’ letter, then print it on screen.

Tips: using loop, ‘len ()’ , startswith() methods.

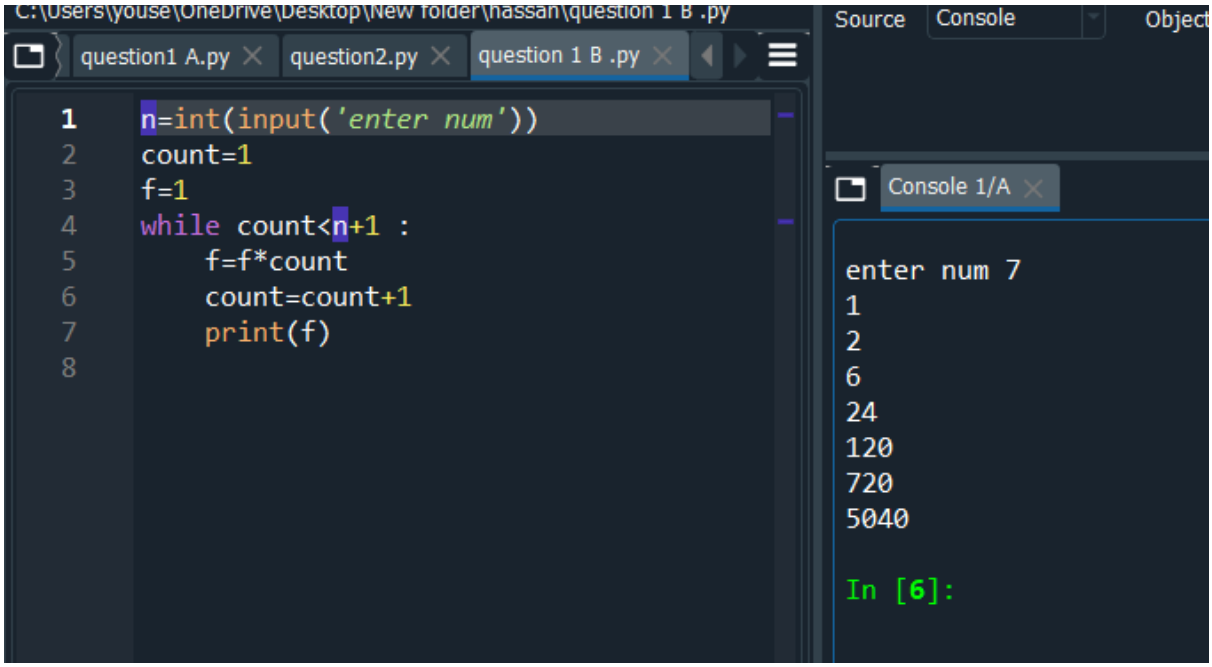
D: Using Dictionary comprehension, Generate this dictionary

d={0:1,1:2,2:3,3:4,4:5,5:6,6:7,7:8,8:9,9:10,10:11}

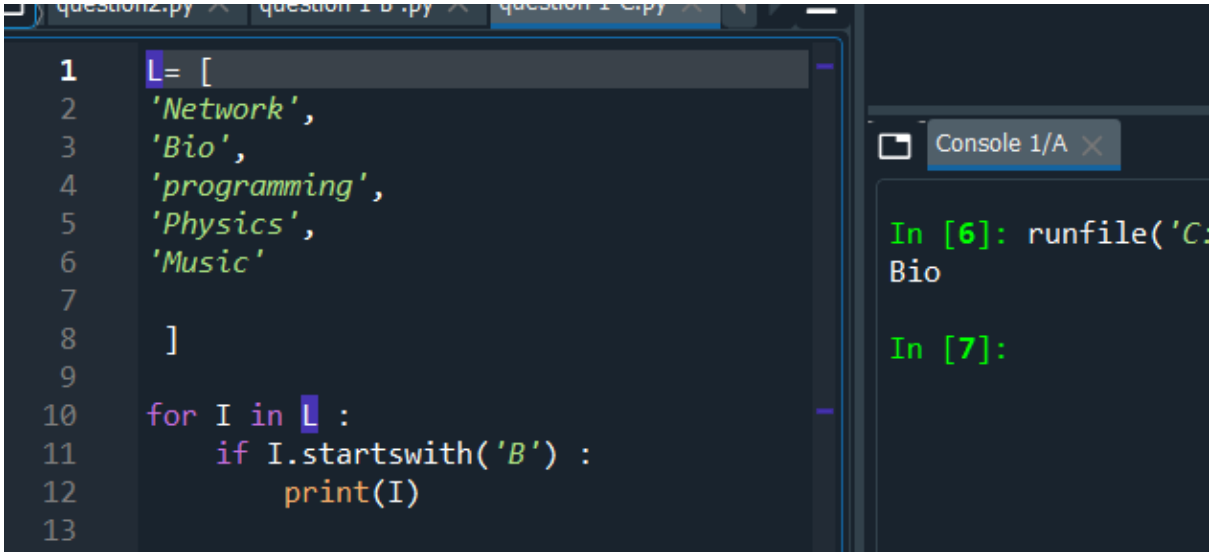
.A



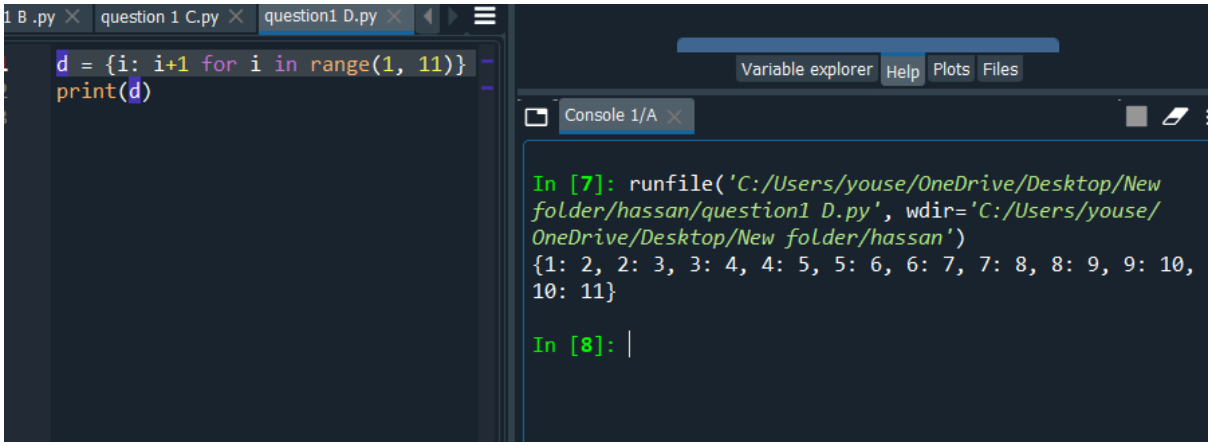
B.



.C

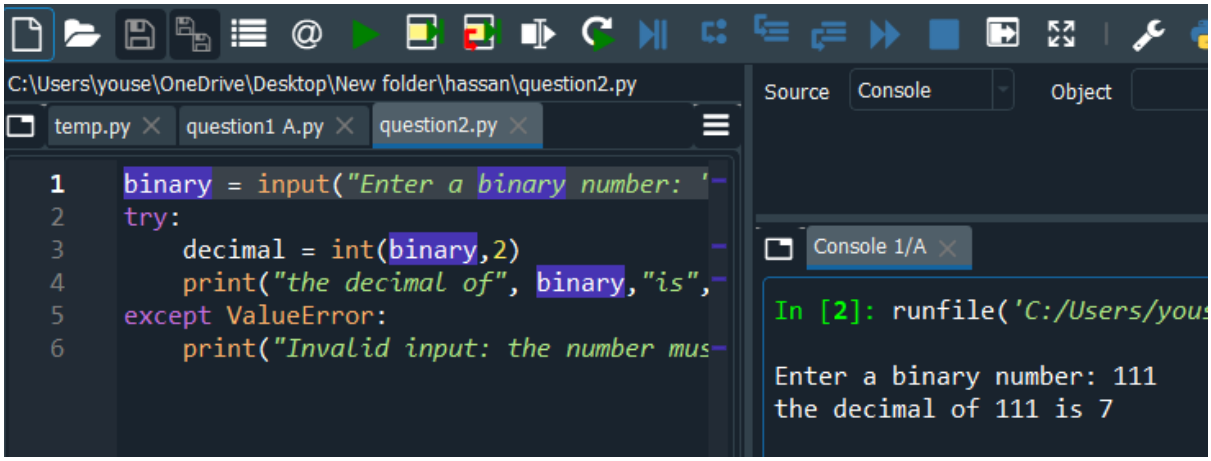


.D



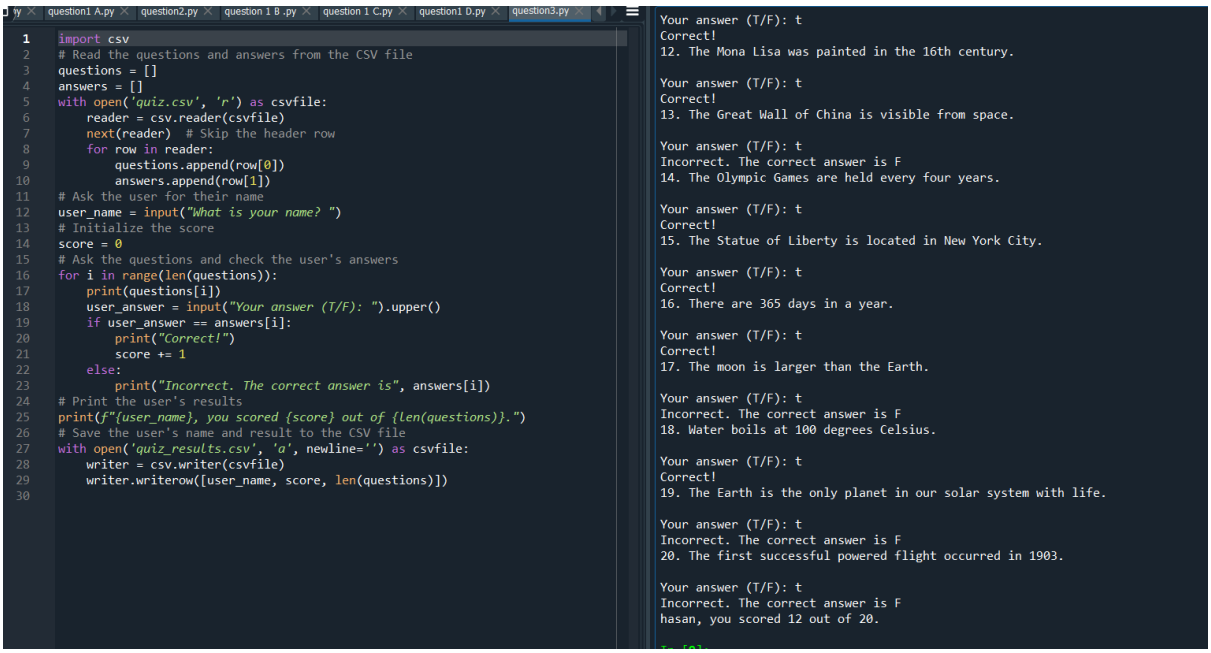
Question 2: Convert from Binary to Decimal

Write a Python program that converts a Binary number into its equivalent Decimal number. The program should start reading the binary number from the user. Then the decimal equivalent number must be calculated. Finally, the program must display the equivalent decimal number on the screen. Tips: solve input errors.



Question 3: Working with Files" Quiz Program"

Type python quiz program that takes a text or json or csv file as input for (20 (Questions, Answers)). It asks the questions and finally computes and prints user results and store user name and result in separate file csv or json file.



Question 4: Object-Oriented Programming - Bank Class

Define a class BankAccount with the following attributes and methods:

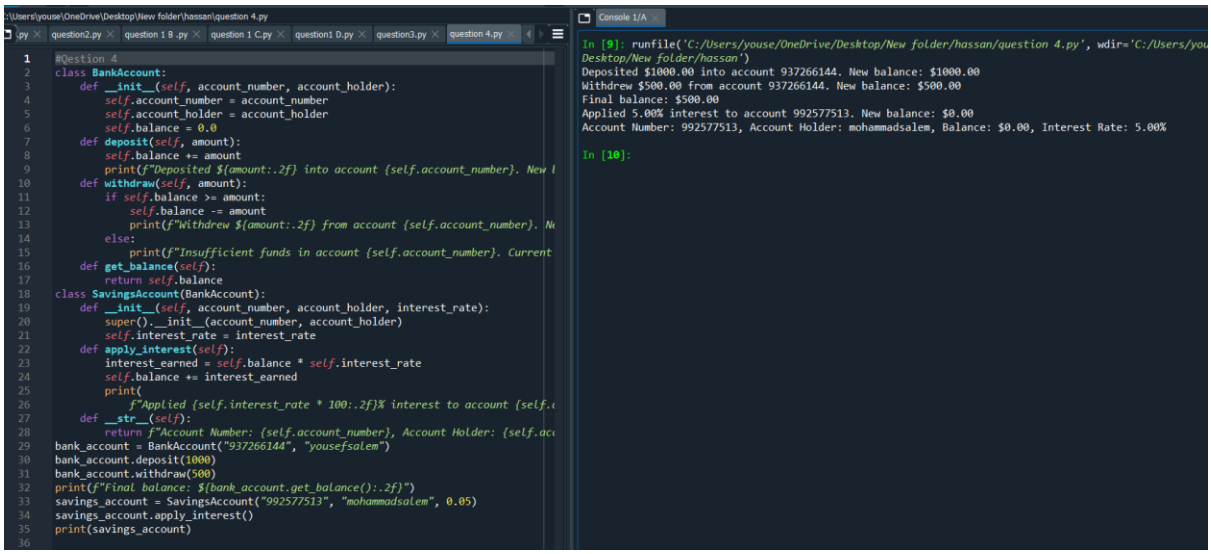
Attributes: account_number (string), account_holder (string), balance (float, initialized to 0.0)

Methods:deposit(amount), withdraw(amount) , get_balance()

- Create an instance of BankAccount, - Perform a deposit of $1000, - Perform a withdrawal of $500.
- Print the current balance after each operation.
- Define a subclass SavingsAccount that inherits from BankAccount and adds interest_rate Attribute and apply_interest() method that Applies interest to the balance based on the interest rate.

And Override print() method to print the current balance and rate.

- Create an instance of SavingsAccount , and call apply_interest() and print() functions.



```
#Qestion 4
class BankAccount:
    def __init__(self, account_number, account_holder):
        self.account_number = account_number
        self.account_holder = account_holder
        self.balance = 0.0
    def deposit(self, amount):
        self.balance += amount
        print(f"Deposited ${amount:.2f} into account {self.account_number}. New
    def withdraw(self, amount):
        if self.balance >= amount:
            self.balance -= amount
            print(f"Withdrew ${amount:.2f} from account {self.account_number}. Ne
        else:
            print(f"Insufficient funds in account {self.account_number}. Current
    def get_balance(self):
        return self.balance
class SavingsAccount(BankAccount):
    def __init__(self, account_number, account_holder, interest_rate):
        super().__init__(account_number, account_holder)
        self.interest_rate = interest_rate
    def apply_interest(self):
        interest_earned = self.balance * self.interest_rate
        self.balance += interest_earned
        print(
            f"Applied {self.interest_rate * 100:.2f}% interest to account {self.a
    def __str__(self):
        return f"Account Number: {self.account_number}, Account Holder: {self.ac
bank_account = BankAccount("937266144", "yousefsalem")
bank_account.deposit(1000)
bank_account.withdraw(500)
print(f"Final balance: ${bank_account.get_balance():.2f}")
savings_account = SavingsAccount("992577513", "mohammadsalem", 0.05)
savings_account.apply_interest()
print(savings_account)
```

```
In [9]: runfile('C:/Users/youse/OneDrive/Desktop/New folder/hassan/question 4.py', wdir='C:/Users/you
Desktop/New folder/hassan')
Deposited $1000.00 into account 937266144. New balance: $1000.00
Withdrew $500.00 from account 937266144. New balance: $500.00
Final balance: $500.00
Applied 5.00% interest to account 992577513. New balance: $0.00
Account Number: 992577513, Account Holder: mohammadsalem, Balance: $0.00, Interest Rate: 5.00%

In [10]:
```