

Syrian Arab Republic

Lattakia - Tishreen University

Department of Communication and  
electrical engineering

5<sup>th</sup> Network Programming : Homework  
No1



الجمهورية العربية السورية

اللاذقية - جامعة تشرين

كلية الهندسة الكهربائية والميكانيكية

قسم هندسة الاتصالات والإلكترونيات

السنة الخامسة: وظيفة ١ برمجة شبكات

---

Name: Maya Fares, Number:2215, Submitted To GitHub:  
mayafares1111

---

### Question 1 : Python Basics?

A-define a list that containe the names of graduated students “5  
students at least “:

Create a program that accept student name and prints if the user .

Question1-a.py > ...

```
1  Gradute_Student=["MAYA","GHADEER","NERMEN","NOOR","MAZEN ","HUSSEIN "]
2  name= input ("Welcome..... Enter your name ")
3  a_name=name.strip()
4  a_name=a_name.upper()
5  if a_name in Gradute_Student:
6      print("Bravo you are graduated")
7  else:
8      print("sorry you are failed")
```

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

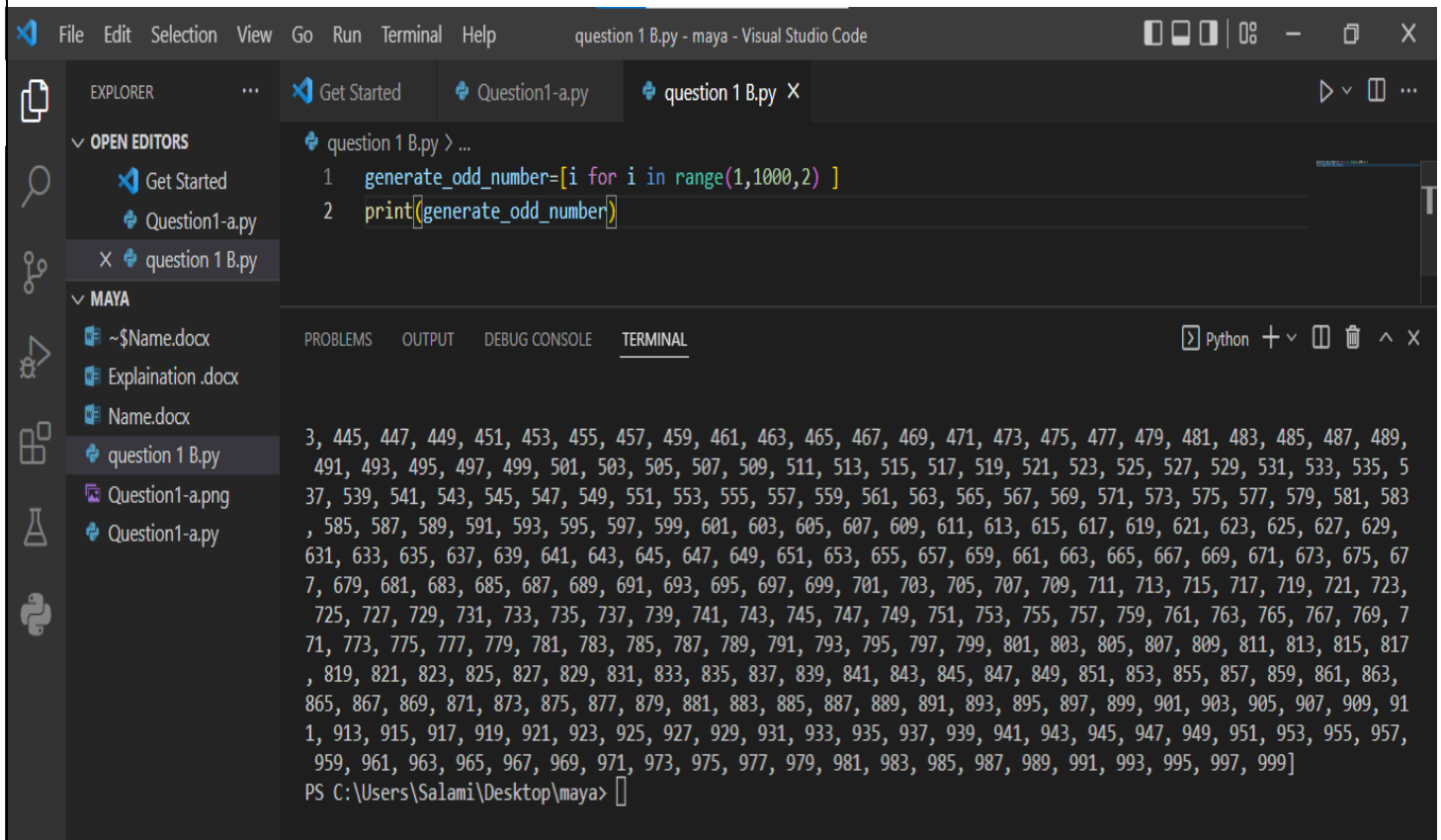
Python +

```
PS C:\Users\Salami\Desktop\maya> & "C:/Program Files/Python310/python.exe" c:/Users/Salami/Desktop/maya/Question1-a.p
Welcome..... Enter your name maya
Bravo you are graduated
PS C:\Users\Salami\Desktop\maya> & "C:/Program Files/Python310/python.exe" c:/Users/Salami/Desktop/maya/Question1-a.p
y
Welcome..... Enter your name ali
sorry you are failed
PS C:\Users\Salami\Desktop\maya> 
```

قمنا بتعريف قائمة تحتوي على أسماء الطلاب المتخرجين بأحرف كبيرة و دون فراغات , ثم يقوم المستخدم بإدخال اسم عن طريق `input` ثم باستخدام التتابع `strip()` سوف يقوم بحذف اية فراغات في حال ادخلها المستخدم على يمين و يسار الاسم وباستخدام التعليمة `upper()` سوف يقوم بتكبير أحرف الاسم لتناسب الاسماء الموجودة بالقائمة .

**B**- Generate and print a list of odd numbers from 1 to 100 .

## Tips: “List Comprehension ”



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left shows the file structure with 'question 1 B.py' selected. The Editor panel shows the following code in 'question 1 B.py':

```
1 generate_odd_number=[i for i in range(1,1000,2) ]
2 print(generate_odd_number)
```

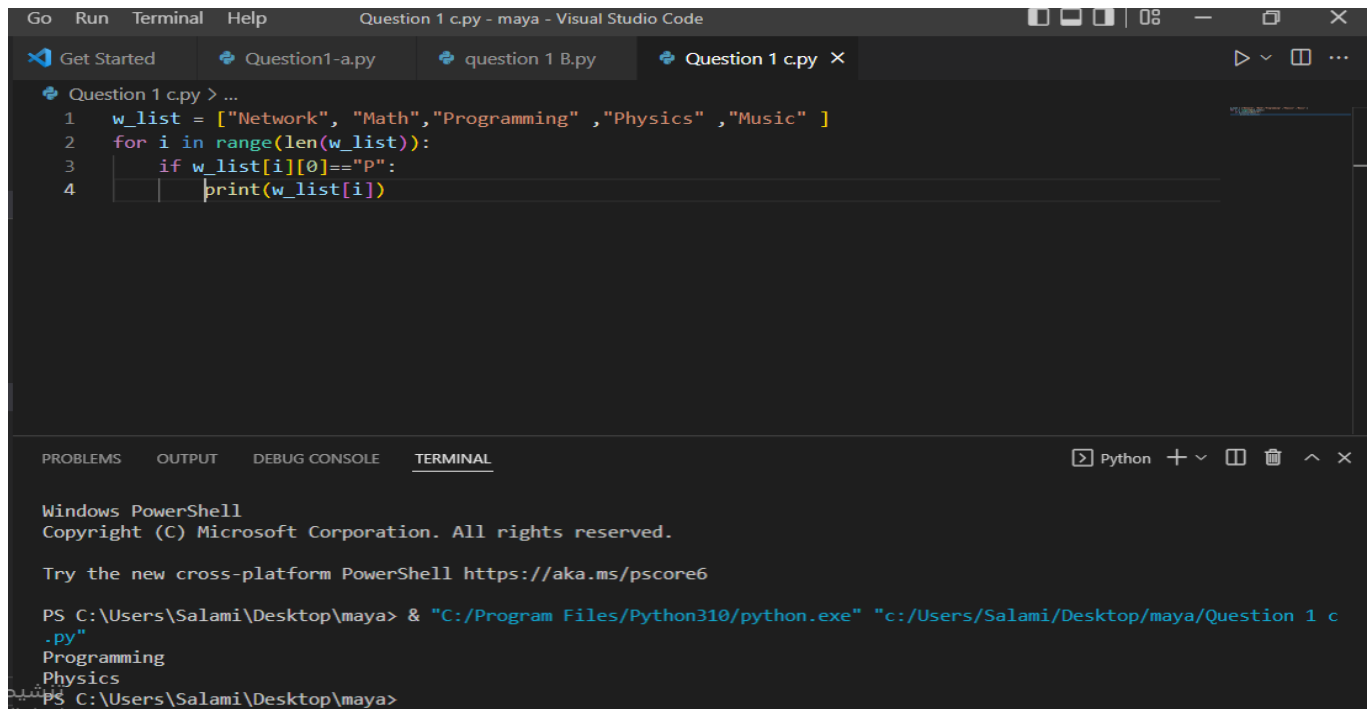
The TERMINAL panel at the bottom shows the output of the script, which is a long list of odd numbers from 3 to 999, separated by commas. The prompt 'PS C:\Users\Salami\Desktop\maya>' is visible at the bottom of the terminal.

قمنا باستخدام القوائم المتداخلة واستخدمنا ضمنها تعليمة for لتوليد الأعداد  
باستخدام تعليمة rang()

C - L=["Network", "Math", "Programming", "Physics", "Music"]

In this exercise, you will implement a Python program that reads the items of the **items that starts with “P” letter**, then print it on screen .

## Tips: using loop , list “len()”method



```
Go Run Terminal Help Question 1 c.py - maya - Visual Studio Code
Get Started Question1-a.py question 1 B.py Question 1 c.py X
Question 1 c.py > ...
1 w_list = ["Network", "Math", "Programming", "Physics", "Music"]
2 for i in range(len(w_list)):
3     if w_list[i][0]=="P":
4         print(w_list[i])

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL Python + - [] X
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Salami\Desktop\maya> & "C:/Program Files/Python310/python.exe" "c:/Users/Salami/Desktop/maya/Question 1 c.py"
Programming
Physics
PS C:\Users\Salami\Desktop\maya>
```

عرفنا قائمة اسمها w\_list واستخدمنا تعليمة for للمرور على عناصر القائمة و اختبار اذا كان يحوي على "P"

**D**: Using Dictionary comprehension, Generate this dictionary

d={ 1:1,2:4,3:9,4:16,5:25,6:36,7:49,8:64,9:81,10:100}

```
question 1 d.py > ...
1  squers_number={ i:i**2 for i in range(1,11) }
2  print(squers_number)

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
Python + - [ ] [X] ^ X

.py"
File "c:\Users\Salami\Desktop\maya\question 1 d.py", line 1
squers_number={i:i**2 while i>0}
                ^^^^^
SyntaxError: invalid syntax
PS C:\Users\Salami\Desktop\maya> & "C:/Program Files/Python310/python.exe" "c:/Users/Salami/Desktop/maya/question 1 d
.py"
PS C:\Users\Salami\Desktop\maya> & "C:/Program Files/Python310/python.exe" "c:/Users/Salami/Desktop/maya/question 1 d
.py"
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}
```

قمنا باستخدام الفهرس المتداخل واستخدمنا ضمنها تعليمة for لتوليد الأعداد  
باستخدام تعليمة rang()

## Question2 : Convert from decimal to binary:

Write a Python program that converts a decimal number into its equivalent binary number.

The program should start reading the decimal number from the user. Then the binary equivalent number must be calculated.

Finally , the program must display the equivalent binary number on the screen .

**Tips :** use empty list to hold binary number, use loop , use % operator ,use // operator, use list append method , reverse the list.

```
question 2.py X
C: > Users > Salami > Desktop > maya > question 2.py > ...
1  D_N=int(input("Enter your Decimal Number: "))
2  l=[]
3  while D_N>0 :
4      l.append(D_N%2)
5      D_N=D_N//2
6  l.reverse()
7  i=0
8  while i<len(l):
9      print(l[i] , end="")
10     i=i+1

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

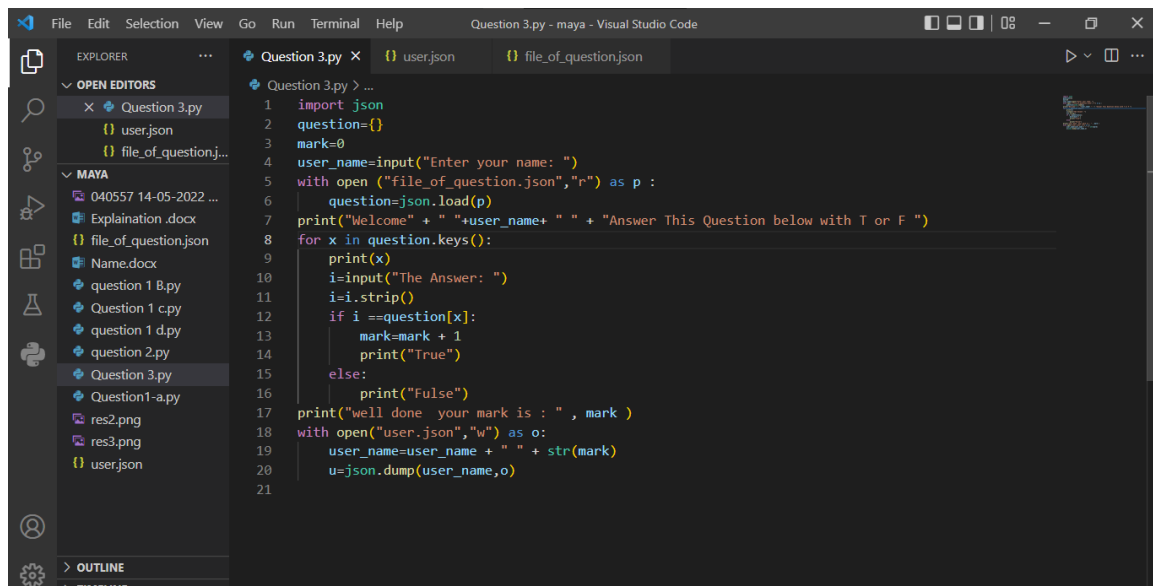
PS C:\Users\Salami> & "C:/Program Files/Python310/python.exe" "c:/Users/Salami/Desktop/maya/question 2.py"
Enter your Decimal Number: 10
1010
PS C:\Users\Salami> & "C:/Program Files/Python310/python.exe" "c:/Users/Salami/Desktop/maya/question 2.py"
Enter your Decimal Number: 55
110111
PS C:\Users\Salami> & "C:/Program Files/Python310/python.exe" "c:/Users/Salami/Desktop/maya/question 2.py"
Enter your Decimal Number: 71
1000111
انتقل إلى الأجزاء المتبقية من البرنامج
PS C:\Users\Salami>
```

في البداية سوف يطلب البرنامج من المستخدم أن يدخل قيمة عدد عشري ويخزنها بالمتحول D\_N عن طريق التعليمة input().  
ثم قمنا بتعريف قائمة فارغة واسميناها l وباستخدام حلقة while وبشرط ان الرقم المدخل من قبل المستخدم أكبر من الصفر سوف نضيف عن طريق التعليمة append الباقي القائمة l وثم نتابع القسمة على ٢ حتى نصل بقيمة صفر وبعدها نخرج من الحلقة , وباستخدام التعليمة reverse() سوف نعكس القائمة للحصول على القيمة الصحيحة للعدد الثنائي , وثم باستخدام تعليمة while سوف نطبع عناصر القائمة ويظهر لدينا القيمة الثنائية للعدد العشري المدخل

### 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 users results and store user name and result separate file.

The main program:



```
1 import json
2 question={}
3 mark=0
4 user_name=input("Enter your name: ")
5 with open ("file_of_question.json","r") as p :
6     question=json.load(p)
7 print("Welcome" + " " +user_name+ " " + "Answer This Question below with T or F ")
8 for x in question.keys():
9     print(x)
10    i=input("The Answer: ")
11    i=i.strip()
12    if i ==question[x]:
13        mark=mark + 1
14        print("True")
15    else:
16        print("False")
17 print("well done your mark is : ", mark )
18 with open("user.json","w") as o:
19     user_name=user_name + " " + str(mark)
20     u=json.dump(user_name,o)
21
```

The output of the program :

```
PS C:\Users\Salami\Desktop\maya> & "C:/Program Files/Python310/python.exe" "c:/Users/Salami/Desktop/maya/Question 3.py"
Enter your name: maya fares
Welcome maya fares Answer This Question below with T or F
The calendar year contain 340 ?
The Answer: F
True
The week contain 7 days?
The Answer: T
True
There are 12 months in the calendar year?
The Answer: T
True
There are 28 letters in the English language?
The Answer: F
True
rainbow had 7 colors ?
The Answer: F
False
the largest continent in the world by area Asia?
The Answer: T
True
largest country in the world by area Barazil?
The Answer: T
False
There ara 8 planets in the solar system?
The Answer: T
True
the longest river in the world is Neil river?
The Answer: T
False
```

```
the diameter of the earth in miles is 8000?  
The Answer: T  
True  
the capital of Syria is Damascus?  
The Answer: T  
True  
the capital of Spain is Paris?  
The Answer: F  
True  
the capital of Egypt Bore Said?  
The Answer: F  
True  
the capital of Lebanon is Beirut?  
The Answer: T  
True  
there ara 28 letters in the Arabic language?  
The Answer: T  
True  
there ara 26 letters in the French language?  
The Answer: T  
True  
there ara 22 Arab countries?  
The Answer: F  
True  
the closest planet to the sun is Mercury?  
The Answer: T  
True  
the Nile River located in Syria?  
The Answer: F  
True
```

```
The Answer: F  
True  
the fastest thing in the world is the sound ?  
The Answer: T  
Fulse  
well done your mark is : 16
```

file\_of\_question.json:



A screenshot of the Visual Studio Code editor. The Explorer sidebar on the left shows a project structure with files like 'Question 3.py', 'user.json', and 'file\_of\_question.json'. The main editor area displays the 'file\_of\_question.json' file, which contains a list of 20 trivia questions and their answers in a JSON array format. The questions range from 'The calendar year contain 360 ?' to 'the fastest thing in the world is the sound ?'.

```
{
  "questions": [
    "The calendar year contain 360 ?":"F",
    "The week contain 7 days?":"T",
    "There are 12 months in the calendar year?":"T",
    "There are 28 letters in the English language?":"F",
    "rainbow had 7 colors ?":"T",
    "the largest continent in the world by area Asia?":"T",
    "largest country in the world by area Barazil?":"F",
    "There ara 8 planets in the solar system?":"T",
    "the longest river in the world is Neil river?":"F",
    "the diameter of the earth in miles is 8000?":"T",
    "the capital of Syria is Damascus?":"T",
    "the capital of Spain is Paris?":"F",
    "the capital of Egypt Bore Said?":"F",
    "the capital of Lebanon is Beirut?":"T",
    "there ara 28 letters in the Arabic language?":"T",
    "there ara 26 letters in the French language?":"T",
    "there ara 22 Arab countries?":"F",
    "the closest planet to the sun is Mercury?":"T",
    "the Nile River located in Syria?":"F",
    "the fastest thing in the world is the sound ?":"F"
  ]
}
```

The result Name and mark for the student are saved in (user.json):

A screenshot of the Visual Studio Code editor showing the 'user.json' file. The Explorer sidebar on the left shows the same project structure as the previous image. The main editor area displays the 'user.json' file, which contains a single JSON object with a 'name' field set to 'maya' and a 'fares' field set to 16.

```
{
  "name": "maya",
  "fares": 16
}
```

في البداية قمنا ب import Jason ثم قمنا بتعريف Empty Dictionary{question} وعرفنا متحول العلامات و اعطياه قيمة صفر  
ثم المستخدم سيقوم بإدخال اسمه , وعن طريق التعليمة with open() سوف  
نقوم بفتح ملف file\_of\_question.json الذي أنشأناه سابقاً ثم نقوم بمناداته  
ب object(b) لسهولة التعامل معه في بايثون , ثم قمنا عن طريق التعليمة  
json.load() بتحميل الملف الى Empty Dictionary{question} , ثم  
عن طريق حلقة for() سوف نمر على الأسئلة والتي هي (keys) في  
Dictionary ثم بمقارنتها عن طريق التعليمة if() مع القيمة التي أدخلها  
المستخدم ستكون الإجابة True or False , ثم قمنا بطباعة العلامة وتحميل  
الاسم مع العلامة الى ملف جديد قمنا بإنشائه في بايثون عن طريق التعليمة  
with open() بغرض الكتابة "w" و قمنا بمناداته ب object(o) و إفراغ  
المحتوى الذي نريده ع طريق التعليمة json.dump .