

Syrian Arab Republic

Lattakia - Tishreen University

Department of Communication and
electrical engineering

5th , Network Programming : Homework
No1



الجمهورية العربية السورية

الملاذقية - جامعة تشرين

كلية الهندسة الكهربائية والميكانيكية

قسم هندسة الاتصالات والإلكترونيات

السنة الخامسة: وظيفة ١ برمجة شبكات

Name: Afraa Hasan ,Number: 2060,Submitted To GitHub: <https://github.com/AfraaHasan>

First Network Programming Homework

Question 1: Python Basics?

A-Define a list that contain the names of graduated students" 5 students at least":

Create a program that accept student name and prints if the user is graduated or not.

B- Generate and print a list of odd numbers from 1 to 1000.

Tips: "List Comprehension"

C- L=['Network' , 'Math' , '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 'P' letter**, then print it on screen.

Tips: using loop, list 'len ()' method

D: Using Dictionary comprehension, Generate this dictionary d={1:1,2:4,3:9,4:16,5:25,6:36,7:42,8:64,9:81,10:100}

Question 2: 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 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.

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Question 1: Python Basics?

A-Define a list that contain the names of graduated students" 5 students at least":

Create a program that accept student name and prints if the user is graduated or not.

```
afraa [C:\Users\Dell\PycharmProjects\afraa] - ... \Question1_A.py [afraa] - PyCharm
File Edit View Navigate Code Refactor Run Tools VCS Window Help
afraa > Question1_A.py
Question1_A.py x
1 graduated_students=["Afraa Hasan", "Reem Ali", "Ali Ahmad", "Ruba Mahmoud", "Alaa Zedan", "Karam Ammar"]
2 student_name=input("please enter your name :")
3 student_name=student_name.title()
4 if student_name in graduated_students:
5     print("congratulations ,you graduate")
6 else:
7     print("you did not graduate ")
8
```

Question1_A

```
C:\Users\Dell\PycharmProjects\afraa\
please enter your name :afraa hasan
congratulations ,you graduate
Process finished with exit code 0
```

Question1_A

```
C:\Users\Dell\PycharmProjects\afraa\
please enter your name :ali ali
you did not graduate |
Process finished with exit code 0
```

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B- Generate and print a list of odd numbers from 1 to 1000.

Tips: "List Comprehension"

```
afraa Question1_B.py Question1_B.py x
Question1_B.py x
1 odd_numbers =[x for x in range (1,1001) if x%2 != 0]
2 print("odd numbers between (1,1000) are:\n",odd_numbers,end=",")
3

Run: Question1_A Question1_B
C:\Users\Dell\PycharmProjects\afraa\venv\Scripts\python.exe C:/Users/Dell/PycharmProjects/afraa/Question1_B.py
odd numbers between (1,1000) are:
[1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91,
93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237,
239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309,
311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381,
383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, 405, 407, 409, 411, 413, 415, 417, 419, 421, 423, 425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453,
455, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511, 513, 515, 517, 519, 521, 523, 525,
527, 529, 531, 533, 535, 537, 539, 541, 543, 545, 547, 549, 551, 553, 555, 557, 559, 561, 563, 565, 567, 569, 571, 573, 575, 577, 579, 581, 583, 585, 587, 589, 591, 593, 595, 597,
599, 601, 603, 605, 607, 609, 611, 613, 615, 617, 619, 621, 623, 625, 627, 629, 631, 633, 635, 637, 639, 641, 643, 645, 647, 649, 651, 653, 655, 657, 659, 661, 663, 665, 667, 669,
671, 673, 675, 677, 679, 681, 683, 685, 687, 689, 691, 693, 695, 697, 699, 701, 703, 705, 707, 709, 711, 713, 715, 717, 719, 721, 723, 725, 727, 729, 731, 733, 735, 737, 739, 741,
743, 745, 747, 749, 751, 753, 755, 757, 759, 761, 763, 765, 767, 769, 771, 773, 775, 777, 779, 781, 783, 785, 787, 789, 791, 793, 795, 797, 799, 801, 803, 805, 807, 809, 811, 813,
815, 817, 819, 821, 823, 825, 827, 829, 831, 833, 835, 837, 839, 841, 843, 845, 847, 849, 851, 853, 855, 857, 859, 861, 863, 865, 867, 869, 871, 873, 875, 877, 879, 881, 883, 885,
887, 889, 891, 893, 895, 897, 899, 901, 903, 905, 907, 909, 911, 913, 915, 917, 919, 921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 951, 953, 955, 957,
959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999],
Process finished with exit code 0
```

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C- L = ['Network' , 'Math' , '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 'P' letter**, then print it on screen.

Tips: using loop, list 'len ()' method

```
afraa > Question1_C.py >
Question1_C.py x
L= ["Network", "Math", "Programming", "Physics", "Music"]
for i in range(len(L)) :
    if L[i].startswith('P'):
        print(L[i])

Question1_C
C:\Users\Dell\PycharmProjects\afraa\venv\Scripts\python.
Programming
Physics
Process finished with exit code 0
```

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Name: Afraa Hasan ,Number: 2060,Submitted To GitHub: <https://github.com/AfraaHasan>

D: Using Dictionary comprehension, Generate this dictionary $d=\{1:1,2:4,3:9,4:16,5:25,6:36,7:49,8:64,9:81,10:100\}$

afraa > Question1_D.py >

Question1_D.py x

```
d={i:i**2 for i in range (1,11)}  
print(d)
```

Question1_D

```
C:\Users\Dell\PycharmProjects\afraa\venv\Scripts\python.exe C:/Users/D  
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}
```

```
Process finished with exit code 0
```



Name: Afraa Hasan ,Number: 2060,Submitted To GitHub: <https://github.com/AfraaHasan>

Question 2: 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.

```
afraa > Question2.py >
Question2.py x
while True:
    try:
        decimal =int(input("enter decimal number: "))
        if decimal ==0:
            print("the equivalent binary number is:",0)
            break

        binary =[]
        while decimal>=1:
            if decimal % 2==0 :
                binary .append('0')
            else :
                binary .append('1')

            decimal = decimal // 2

        binary.reverse()
        str_binary= "".join(binary)
        print("the equivalent binary number is:",str_binary)
        break
    except:
        print("you did not enter an intger number,try again ")
```

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Run Question2:

Question2

```
C:\Users\Dell\PycharmProjects\afraa\venv\Scripts>
enter decimal number: 2.5
you did not enter an integer number, try again
enter decimal number: 55
the equivalent binary number is: 110111

Process finished with exit code 0
```

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Name: Afraa Hasan ,Number: 2060,Submitted To GitHub: <https://github.com/AfraaHasan>

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.

Note : I used user defined functions in this program to be easier in case of any future developments ...

```
afraa > Question3_.py
Question3_.py x Question3_.py x
#creat a text file(question answer)to use it as input for a python quiz program
def write_file(file_name,text):
    w=open(file_name, "w")
    text=[line+"\n" for line in text]
    w.writelines(text)
    w.close()

Q_A=["q1:What is the capitale city of Syria;;Damascus", "q2 :What is the capitale city of Sudan;;Khartoum",
     "q3 :What is the capitale city of Iraq;;Baghdad", "q4 :What is the capitale city of Jordan;;Amman",
     "q5 :What is the capitale city of Lebanon;;Beirut", "q6 :What is the capitale city of Morocco;;Rabat",
     "q7 :What is the capitale city of Tunisia;;Tunis", "q8 :What is the capitale city of United Arab Emirates;;Abudha",
     "q9 :What is the capitale city of Yemen;;Sana'a", "q10:What is the capitale city of Algeria;;Algiers",
     "q11:What is the capitale city of Bahrain;;Manama", "q12:What is the capitale city of Saudi Arabia;;Riyadh",
     "q13:What is the capitale city of Egypt;;Cairo", "q14:What is the capitale city of Kuwait;;Kuwait",
     "q15:What is the capitale city of Libya;;Tripoli", "q16:What is the capitale city of Mauritania;;Nouakchott",
     "q17:What is the capitale city of Qatar;;Doha", "q18:What is the capitale city of palestain;;Alquds",
     "q19:What is the capitale city of Somalia;;Mogadishu", "q20:What is the capitale city of Oman;;Muscat"]

write_file("question_answer_file.text", Q_A)
```


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```
afraa > Question3_.py > Question3_.py
Question3_.py x Question3_.py x
#python quiz program that takes a text file ("question_answer_file.text")as input

import Question3_
def read_file(file_name):
    r= open("question_answer_file.text", "r")
    list_r=[line.rstrip().split(";") for line in r]
    return list_r
    r.close()

Q_A=read_file("question_answer_file.text")

print ("welcom^~^\\nQuiz the capitale city of Arabic contries\\nenter (stop) if you get bored\\n")
print (" (help box:Mogadishu,Cairo,Muscat,Riyadh,Nouakchott,Damascus,Doha,Khartoum,Amman,Alquds\\n,"
        "Sana'a,Kuwait,Tunis,Manama,Tripoli,Beirut,Baghdad,Algiers,Abudhabi,Rabat) \\n")
print ("Let's start:")
user_name =input("please enter your name :")

User_result_file = open("User_result_file.text", "w")
User_result_file . write(user_name+"\\n")
User_result_file = open("User_result_file.text", "a")

points=0
for i in range(0,20):
    answ=input(Q_A[i][0])
    answ= answ.capitalize()
    if answ=="Stop":
        break

    if answ==Q_A[i][1]:
        points=points+1
        User_result_file.write("{}\\n the answeris:{}\\n your answer is correct\\n".format(Q_A[i][0], Q_A[i][1]))

    else:
        User_result_file.write("{}\\nyour answer {} is wrong,the right answer is:{}\\n".format(Q_A[i][0],answ, Q_A[i][1]))

User_result_file.write("you scord {} points".format(points))
User_result_file.close()
print(open("User_result_file.text", "r").read())
User_result_file.close()
```

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Question_Answer_text_file:

```
afraa > question_answer_file.text >
question_answer_file.text x
q1:What is the capitale city of Syria;;Damascus
q2 :What is the capitale city of Sudan;;Khartoum
q3 :What is the capitale city of Iraq;;Baghdad
q4 :What is the capitale city of Jordan;;Amman
q5 :What is the capitale city of Lebanon;;Beirut
q6 :What is the capitale city of Morocco;;Rabat
q7 :What is the capitale city of Tunisia;;Tunis
q8 :What is the capitale city of United Arab Emirates;;Abudhabi
q9 :What is the capitale city of Yemen;;Sana'a
q10:What is the capitale city of Algeria;;Algiers
q11:What is the capitale city of Bahrain;;Manama
q12:What is the capitale city of Saudi Arabia;;Riyadh
q13:What is the capitale city of Egypt;;Cairo
q14:What is the capitale city of Kuwait;;Kuwait
q15:What is the capitale city of Libya;;Tripoli
q16:What is the capitale city of Mauritania;;Nouakchott
q17:What is the capitale city of Qatar;;Doha
q18:What is the capitale city of palestain;;Alquds
q19:What is the capitale city of Somalia;;Mogadishu
q20:What is the capitale city of Oman;;Muscat
```

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Run:

```
afraa > Question3_.py
Question3_.py x
Question3_
C:\Users\Dell\PycharmProjects\afraa\venv\Scripts\python.exe C:/Users/Dell/PycharmProjec
welcom^-^
Quiz the capitale city of Arabic contries
enter (stop) if you get bored

(help box:Mogadishu,Cairo,Muscat,Riyadh,Nouakchott,Damascus,Doha,Khartoum,Amman,Alquds
,Sana'a,Kuwait,Tunis,Manama,Tripoli,Beirut,Baghdad,Algiers,Abudhabi,Rabat)

Let's start:
please enter your name :afraa hasan
q1:What is the capitale city of Syria:damascus
q2 :What is the capitale city of Sudan:khartoum
q3 :What is the capitale city of Iraq:baghdad
q4 :What is the capitale city of Jordan:amman
q5 :What is the capitale city of Lebanon:beirut
q6 :What is the capitale city of Morocco:rabat
q7 :What is the capitale city of Tunisia:tunisia
q8 :What is the capitale city of United Arab Emirates:abudhabi
q9 :What is the capitale city of Yemen:sana'a
q10:What is the capitale city of Algeria:algeria
q11:What is the capitale city of Bahrain:stop
afraa hasan
```

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```
afraa > Question3_.py >
Question3_.py x
Question3_
afraa hasan
q1:What is the capitale city of Syria:
the answeris:Damascus
your answer is correct
q2 :What is the capitale city of Sudan:
the answeris:Khartoum
your answer is correct
q3 :What is the capitale city of Iraq:
the answeris:Baghdad
your answer is correct
q4 :What is the capitale city of Jordan:
the answeris:Amman
your answer is correct
q5 :What is the capitale city of Lebanon:
the answeris:Beirut
your answer is correct
q6 :What is the capitale city of Morocco:
the answeris:Rabat
your answer is correct
q7 :What is the capitale city of Tunisia:
your answer Tunisia is wrong,the right answer is:Tunis
q8 :What is the capitale city of United Arab Emirates:
the answeris:Abudhabi
your answer is correct
q10:What is the capitale city of Algeria:
your answer Algeria is wrong,the right answer is:Algiers
you scord 8 points

Process finished with exit code 0
|
```

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Result_text_file:

```
afraa > User_result_file.text >
User_result_file.text x
afraa hasan
q1:What is the capitale city of Syria:
the answeris:Damascus
your answer is correct
q2 :What is the capitale city of Sudan:
the answeris:Khartoum
your answer is correct
q3 :What is the capitale city of Iraq:
the answeris:Baghdad
your answer is correct
q4 :What is the capitale city of Jordan:
the answeris:Amman
your answer is correct
q5 :What is the capitale city of Lebanon:
the answeris:Beirut
your answer is correct
q6 :What is the capitale city of Morocco:
the answeris:Rabat
your answer is correct
q7 :What is the capitale city of Tunisia:
your answer Tunisia is wrong,the right answer is:Tunis
q8 :What is the capitale city of United Arab Emirates:
the answeris:Abudhabi
your answer is correct
q9 :What is the capitale city of Yemen:
the answeris:Sana'a
your answer is correct
q10:What is the capitale city of Algeria:
your answer Algeria is wrong,the right answer is:Algiers
you scord 8 points
```

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