Syrian Arab Republic

Lattakia - Tishreen University

Department of Communication and electrical engineering

5th , Network Programming : Homework No1

الجمهورية العربية السورية

اللاذقية -جامعــة تشريـــن

كلية الهندسة الكهربائية والميكانيكية

قسم هندسة الاتصالات والالكترونيات

السنة الخامسة: وظيفة١ برمجة شبكات

Name:Ali-Ibrahim_____, Number:2419____, Submitted To GitHub:_Alih99z_____

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.

Question 1A.py > ...

```
1   L=['ali','ammar','ahmad','shaban','batoul']
2   x=input('Enter name :')
3   if x in L :
4       print("yes")
5   else:
6       print("no")
7
8
9
10
11
12
13
14
15
16
17
18
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

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

PS C:\Users\ASUS\Desktop\python>  & 'C:\Users\ASUS\AppData\Local\Progr
22.4.1\pythonFiles\lib\python\debugpy\launcher' '51671' '--' 'c:\Users
Enter name :ali
yes
```

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B- Generate and print a list of odd numbers from 1 to 1000.
Tips: “List Comprehension”

```
Question1B.py > ...
1   X2=[x3 for x3 in range(1,1000) if x3%2!=0]
2   print(X2)
```

```
PROBLEMS  OUTPUT  TERMINAL  DEBUG CONSOLE                Python Debug Console

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

PS C:\Users\ASUS\Desktop\python>  & 'C:\Users\ASUS\AppData\Local\Programs\Python\Python38-32\python.exe' 'c:\Users\ASUS\.vscode\extensions\ms-python.python-2022.4.1\pythonFiles\lib\python\debugpy\launcher' '62624' '--' 'c:\Users\ASUS\Desktop\python\Question1B.py'
[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, 2
75, 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, 40
1, 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, 5
91, 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, 71
7, 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, 9
07, 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]
PS C:\Users\ASUS\Desktop\python>
```

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C- L=[‘Network’ , ’Math’ , ’Programming’, ‘P
hysics’ , ‘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

Question1C.py > ...

```
1  L=['Network','Math','Programming','Physsics','Music']
2  L1=[]
3  for i in range(len(L)):
4
5      if(L[i][0])=='P':
6          L1.append(L[i])
7  print(L1)
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
Windows PowerShell
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PS C:\Users\ASUS\Desktop\python>  & 'C:\Users\ASUS\AppData\Local\Programs\
22.4.1\pythonFiles\lib\python\debugpy\launcher' '62629' '--' 'c:\Users\ASU
['Programming', 'Physsics']
PS C:\Users\ASUS\Desktop\python>
```

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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}

Question1d.PY > ...

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

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

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

PS C:\Users\ASUS\Desktop\python>  & 'C:\Users\ASUS\AppData\Local\Programs\P
22.4.1\pythonFiles\lib\python\debugpy\launcher' '62634' '--' 'c:\Users\ASUS
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}
PS C:\Users\ASUS\Desktop\python>
```

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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 2.py > ...

```
1
2   from msilib.schema import Binary
3   binary=[]
4   x1 = int(input("Enter the decimai number :"))
5   x2 = x1
6   while x2!=0:
7       x3=x2%2
8       binary.append(x3)
9       x2=x2//2
10  binary.reverse()
11  x4=" "
12  for i in binary:
13      x4=x4+str(i)
14  print("Decimil :",x1,"<===>","binary :",x4)
15
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

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

PS C:\Users\ASUS\Desktop\python>  & 'C:\Users\ASUS\AppData\L
22.4.1\pythonFiles\lib\python\debugpy\launcher' '62639' '--'
Enter the decimai number :10
Decimil : 10 <===> binary :  1010
PS C:\Users\ASUS\Desktop\python>
```

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السنة الخامسة: وظيفة١ برمجة شبكات

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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.

Question 3 > Question 3-1.py > ...

```
import json
q1="""x+y=? :
a.9
b.10"""
q2="""x-y=? :
a.1
b.-1"""
q3="""x+z=? :
a.9
b.10"""
q4="""x+y+z=? :
a.14
b.10"""
q5="""z+y-x=? :
a.9
b.7"""
q6="""x*y=? :
a.9
b.20"""
q7="""y//x=? :
a.1
b.10"""
q8="""x*x*y? :
a.80
b.10"""
q9="""y*y*x? :
a.1
b.100"""
q10="""z*z*x? :
a.144
b.10"""
q11="""z-y-x? :
```

Question 3 > Question 3-1.py > ...

```
a.144
b.10"""
q11="""z-y-x? :
a.-3
b.10"""
q12="""z-x? :
a.2
b.10"""
q13="""z*y/x ? :
a.7.5
b.10"""
q14="""x*z/y? :
a.1
b.3.34"""
q15="""y*y-x*x? :
a.9
b.10"""
q16="""x*x+z*y ? :
a.46
b.10"""
q17="""y*z-2x? :
a.22
b.10"""
q18="""2x+2z-y? :
a.1
b.10"""
q19="""3x-z*y? :
a.30
b.10"""
q20="""z-4y+6x? :
a.1
b.10"""
```

```
dic = {q1:"a",q2:"b",q3:"b",q4:"a",q5:"b",q6:"b",q7:"a",q8:"a",q9:"b",q10:"a",
q11:"a",q12:"a",q13:"a",q14:"b",q15:"a",q16:"a",q17:"a",q18:"b",q19:"a",q20:"b"}
q=json.dumps(dic)
with open("q.json","w")as f:
    f.write(q)
```

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Question 3-2.py > ...

```python
import json
from pprint import pprint
print ("x=4","y=5","z=6")
s=0
q1 = {}
L1 = []
name1 = input("enter name :")
with open("q.json","r") as f:
    q=json.loads(f.read())
    for i in q :
        print(i)
        ans = input("enter the answer a/b :")
        L1.append(ans)
        if ans ==q[i]:
            print("correct answer,you got 1 point")
            s=s+1
        else:
            print("wrong answer,you lost 1 point")
            s=s-1

    q1 ={name1:L1}
    print(q1)

    print("final score is :",s)
```

```
x=4 y=5 z=6
enter name :ali
x+y=? :
a.9
b.10
enter the answer a/b :a
correct answer,you got 1 point
x-y=? :
a.1
b.-1
enter the answer a/b :b
correct answer,you got 1 point
x+z=? :
a.9
b.10
enter the answer a/b :b
correct answer,you got 1 point
x+y+z=? :
a.14
b.10
enter the answer a/b :a
correct answer,you got 1 point
z+y-x=? :
a.9
b.7
enter the answer a/b :b
correct answer,you got 1 point
x*y=? :
a.9
b.20
enter the answer a/b :b
correct answer,you got 1 point
```

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```
enter the answer a/b :a
correct answer,you got 1 point
x*x*y? :
a.80
b.10
enter the answer a/b :a
correct answer,you got 1 point
y*y*x? :
a.1
b.100
enter the answer a/b :b
correct answer,you got 1 point
z*z*x? :
a.144
b.10
enter the answer a/b :a
correct answer,you got 1 point
z-y-x? :
a.-3
b.10
enter the answer a/b :a
correct answer,you got 1 point
z-x? :
a.2
b.10
enter the answer a/b :a
correct answer,you got 1 point
z*y/x ? :
a.7.5
b.10
enter the answer a/b :a
correct answer,you got 1 point
```

```
enter the answer a/b :a
correct answer,you got 1 point
x*z/y? :
a.1
b.3.34
enter the answer a/b :b
correct answer,you got 1 point
y*y-x*x? :
a.9
b.10
enter the answer a/b :a
correct answer,you got 1 point
x*x+z*y ? :
a.46
b.10
enter the answer a/b :a
correct answer,you got 1 point
y*z-2x? :
a.22
b.10
enter the answer a/b :a
correct answer,you got 1 point
2x+2z-y? :
a.1
b.10
enter the answer a/b :b
correct answer,you got 1 point
3x-z*y? :
a.30
b.10
enter the answer a/b :b
wrong answer,you lost 1 point
```

```
enter the answer a/b :b
wrong answer,you lost 1 point
z-4y+6x? :
a.1
b.10
enter the answer a/b :b
correct answer,you got 1 point
{'ali': ['a', 'b', 'b', 'a', 'b', 'b', 'a', 'a', 'b', 'a', 'a', 'a', 'a', 'b', 'a', 'a', 'a', 'b', 'b', 'b']}
final score is : 18
PS C:\Users\ASUS\Desktop\python>
```

Name:Ali-Ibrahim_____, Number:2419____, Submitted To GitHub:_Alih99z_____