



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.

تم تعريف قائمة مكونة من خمسة اشخاص ، يطلب من المستخدم ادخال اسمه وقد استخدمنا تعليمة ل نتأكد اذا كان الاسم موجود ضمن القائمة

```
11.py - C:\Users\LENOVO\AppData\Local\Programs\Python\Python310\11.py (3.10.4)
File Edit Format Run Options Window Help
l=['Shaban', 'Rana', 'Haidara', 'Malak', 'Ali']
sname=input('Enter the student name:')
if sname in l:
    print('The student name: ',sname,' is gradute')
else:
    print("This student name:",sname," doesn't gradute")

IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:4
AMD64) on win32
Type "help", "copyright", "credits" or "license()" for mc
>>>
==== RESTART: C:\Users\LENOVO\AppData\Local\Programs\Pyth
Enter the student name:Shaban
The student name: Shaban is gradute
>>>
==== RESTART: C:\Users\LENOVO\AppData\Local\Programs\Pyth
Enter the student name:Ammar
This student name: Ammar doesn't gradute
>>> |
```

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

Tips: “List Comprehension”

تم تعريف حلقة مجالها من ١ حتى ١٠٠٠ داخل القائمة عند كل لفة يتم اختبار اذا كان الشرط محقق ام لا ، الشرط هو هل باقي قسمة العدد على ٢ هو ١



```
B.py - C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/B.py (3.10.4)
File Edit Format Run Options Window Help
l=[x for x in range(1000) if x % 2 == 1]
print(l)

IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/B.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, 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]
```

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

تم تعريف List تحوي خمس عناصر ثم انشأنا حلقة مجالها هو عدد عناصر الموجودة في القائمة ، ثم قمنا بوضع شرط اذا كان اول حرف من كل عنصر يبدأ بقيمة P يتم طباعة الكلمة على الشاشة

```
c.py - C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/c.py (3.10.4)
File Edit Format Run Options Window Help
l=['Network', 'Math', 'Programming', 'Physics', 'Music']
for i in range(4):
    if l[i][0]=='P':
        print(l[i])

IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/c.py =====
>>>
Programming
Physics
```

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}

تم تعريف Dictionary مجالها من ١ حتى ١١ يتم فيها طباعة الرقم كمفتاح وناتج تربيعه ك رقم



```
d.py - C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/d.py (3.10.4)
File Edit Format Run Options Window Help
d={x: x * x for x in range (11)}
print (d)
```

```
IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit
AMD64] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/d.py =====
>>> {0: 0, 1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 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.

يتم الطلب من المستخدم ادخال اي رقم ثم يتم تعريف list فارغة
ثم عرفنا حلقة تعمل بشكل دائم طالما تحقق شرط ان الرقم المدخل لا يساوي الصفر ثم عرفنا متغير يأخذ القيم الناتجة عن باقي قسمة العدد على ٢ ويتم اضافة قيم
هذا المتغير ضمن القائمة
ثم يتم قلب عناصر ال list من خلال تعليمة reverse تم تعريف متغير نوع string يأخذ قيمة فارغة ثم يتم انشاء
حلقة for مجالها هو عدد عناصر ال list يتم من خلالها اضافة كل قيمة من ال list الى المتغير وأخيرا نطبع قيمة المتغير وهو يعبر عن نتيجة
تحويل الرقم العشري الى ثنائي

```
i.py - C:/Users/LENOVO/AppData/Local/Programs/Python/Python
File Edit Format Run Options Window Help
n=int(input("Enter any number :"))
l=[]

while ( n != 0):
    temp= n % 2
    l.append(temp)
    n = n//2
l.reverse()
s=""
for i in l:
    s=s+str(i)
print(s)
```

```
IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23
AMD64] on win32
Type "help", "copyright", "credits" or "lic
>>>
===== RESTART: C:\Users\LENOVO\AppData\Loca
Enter any number :11
1011
>>>
```

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.



ضمن ملف ال json تم تعريف عشرون سؤال من نوع string ثم عرفنا dictionary ووضعنا الاسئلة كمفاتيح والاجوبة ك قيم لهذه المفاتيح ثم عرفنا ملف json ضمن متغير q وتم تخزينه ثم تم فتحه الكتابة ثم في الصورة الثانية تم فتح ملف ال json وقراءته ثم عرفنا متغير وهو عبارة عن اسم المستخدمة و متغير اخر هو int يعبر عن نتيجة المستخدم ضمن حلقة for مجالها عبارة عن عدد مفاتيح ال dictionary يتم بها اوال طباعة كل مفتاح على حدا (كل سؤال على حدا) ثم عرفنا متغير ans يتم فيه ادخال الجواب من قبل المستخدم فإذا كان الجواب صحيح يتم طباعة جملة الجواب صحيح ويتم إضافة ١ ل نتيجته مع طباعة قيمة نتيجته الحالية و إذا كان الجواب غير صحيح يتم اخباره ان الجواب خطأ وهكذا وأخيرا يطبع اسم المستخدم و علامته النهائية ويخزنهم في ملف result.json

```
result.json - C:/Users/LENOVO/AppData/Local/Programs/Python/Python310/result.json (3.10... —
File Edit Format Run Options Window Help

import json
d=""
ans=json.dumps(d)
with open ("result.json","w") as f:
    f.write(ans)

import json
q1="1+1"
q2="2+2"
q3="3+3"
q4="4+4"
q5="5+5"
q6="6+6"
q7="7+7"
q8="8+8"
q9="9+9"
q10="10+10"
q11="1*1"
q12="2*2"
q13="3*3"
q14="4*4"
q15="5*5"
q16="6*6"
q17="7*7"
q18="8*8"
q19="9*9"
q20="10*10"
d={q1:"2",q2:"4",q3:"6",q4:"8",q5:"10",q6:"12",q7:"14",q8:"16",q9:"18",q10:"20",
  q11:"1",q12:"4",q13:"9",q14:"16",q15:"25",q16:"36",q17:"49",q18:"64",q19:"81",q10:"100"}
q=json.dumps(d)
with open("333.json","w") as f:
    f.write(q)
```



33.py - C:\Users\LENOVO\AppData\Local\Programs\Python\Python310\33.py (3.10.4)

File Edit Format Run Options Window Help

```
import json

with open ("333.json","r") as f:
    d=json.loads(f.read())
    f.close()
    name = input("Enter your name:")
    print("Welcome",name,"to the quiz")
    score=0
    for i in d:
        print(i)
        ans = input("Enter the answer :")
        if ans==d[i]:

            print("Correct answer")
            score=score+1
            print("your score now is",score)
        else:
            print("Wrong answer")
            print("your score now is",score)
    result=name,'your final score is :',score
    print(result)
    with open ("result.json","w") as f:
        d=json.dumps(d)
        f.close()
```



```
==== RESTART: C:\Users\LENOVO\AppData\Local\Programs\Python\Python310\33.py ====
Enter your name:Shaban
Welcome Shaban to the quiz
1+1
Enter the answer :2
Correct answer
your score now is 1
2+2
Enter the answer :4
Correct answer
your score now is 2
3+3
Enter the answer :6
Correct answer
your score now is 3
4+4
Enter the answer :8
Correct answer
your score now is 4
5+5
Enter the answer :10
Correct answer
your score now is 5
6+6
Enter the answer :12
Correct answer
your score now is 6
7+7
Enter the answer :14
Correct answer
your score now is 7
8+8
Enter the answer :16
Correct answer
your score now is 8
9+9
Enter the answer :18
Correct answer
```



```
your score now is 9
10+10
Enter the answer :20
Correct answer
your score now is 10
1*1
Enter the answer :2
Wrong answer
your score now is 10
2*2
Enter the answer :4
Correct answer
your score now is 11
3*3
Enter the answer :9
Correct answer
your score now is 12
4*4
Enter the answer :16
Correct answer
your score now is 13
5*5
Enter the answer :25
Correct answer
your score now is 14
6*6
Enter the answer :36
Correct answer
your score now is 15
7*7
Enter the answer :49
Correct answer
your score now is 16
8*8
Enter the answer :64
Correct answer
your score now is 17
9*9
Enter the answer :81
Correct answer
```

```
Correct answer
your score now is 18
10*10
Enter the answer :100
Correct answer
your score now is 19
('Shaban', 'your final score is :', 19)
```