



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 لتتأكد اذا كان الاسم موجود ضمن القائمة

```
A.py - E:/Sana/A.py (3.10.4)
File Edit Format Run Options Window Help
l=['Sana','Rana','Ali','Malak','Hala']
sname=input('Inter the student name:')
if sname in l:
    print('The student name: ',sname,' is graduate')
else:
    print("This student name:",sname," doesn't graduate")

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: E:/Sana/A.py =====
Inter the student name:Sana
The student name: Sana is graduate
>>> |
```

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 - E:/Sana/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: E:/Sana/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 محرف من كل عنصر يبدأ بقيمة P يتم طباعة الكلمة على الشاشة



```
C.py - E:/Sana/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:
AMD64) on win32
Type "help", "copyright", "credits" or "license()" for m
>>>
===== RESTART: E:/Sana/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 - E:/Sana/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: E:/Sana/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

```
2.py - E:/Sana/2.py (3.10.4)
File Edit Format Run Options Window Help
n=int(input("Enter 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
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Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:
AMD64) ] on win32
Type "help", "copyright", "credits" or "license()" fo
>>>
===== RESTART: E:/Sana/2.py =
Enter number :22
10110
>>> |
```

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



question.json - E:/Sana/question.json (3.10.4)

File Edit Format Run Options Window Help

```
import json
Q1= """ What does this function do?len():
a)Number of items in array
b)Index of the value withen the array"""
Q2= """ What does this function do?max():
a)The maximum number
b)The minimum number"""
Q3= """What does this function do?min():
a)The maximum number
b)The minimum number"""
Q4= """What does this function do?sum():
a)Adds an object to the array
b)sum of numbers"""
Q5= """What does this function do?index():
a)Index of the value withen the array
b)Number of items in array"""
Q6= """What does this function do?reverse():
a)Index of the value withen the array
b)Reflects the elements of the array"""
Q7= """What does this function do?clear():
a)Completly deletes the array elements
b)Adds an object to the array"""
Q8= """What does this function do?del():
a)Completly deletes the array elements
b>Delete the last element of the array"""
Q9= """What does this function do?insert():
a)Adds a word to the array index
b)Adds an object to the array"""
Q10= """What does this function do?append():
a)Adds a word to the array index
b)Adds an object to the array """
Q11= """What does this function do?upper():
a)all characters are capital letters
b)all characters are lowercase"""
Q12= """What does this function do?lower():
a)all characters are capital letters
b)all characters are lowercase"""
Q13= """What does this function do?count():
a)all characters are lowercase
b)count the number of times a character is repeated"""
Q14= """What does this function do?capitlize():
```



```
#!/usr/bin/perl use strict; use warnings;
Q13=""What does this function do?count():
a)all characters are lowercase
b)count the number of times a character is repeated""
Q14=""What does this function do?capitalize():
a)The first letter in capital
b)all characters are capital letters""
Q15=""What does this function do?title():
a)each character after the space is capitalized
b)all characters are capital letters""
Q16=""What does this function do?rstrip():
a)Delete the spaces from the end of str
b)all characters are lowercase""
Q17=""What does this function do?extend():
a)all characters are lowercase
b)adds more than object ""
Q18=""What does this function do?split():
a)convert to list
b)convert to string""
Q19=""What does this function do?join():
a)convert to list
b)convert to string""
Q20=""What does this function do?remove():
a)Delete the first appearance
b)Delete the spaces from the end of str""

Questions = (Q1:'a',Q2:'a',Q3:'b',Q4:'b',Q5:'a',Q6:'b',Q7:'a',Q8:'b',Q9:'a',Q10:'b',Q11:'a',Q12:'b',Q13:'b',Q14:'a',Q15:'a',Q16:'a',Q17:'b',Q18:'a',Q19:'b',Q20:'a')
Q = json.dumps(Questions)
with open ("question.json","w") as f:
    f.write(Q)
```

عرفنا عدد يساوي الصفر و قاموسين لتخزين النتائج وقمنا ب انشاء حلقة for بعد فتح تابع ال json الحلقة تقوم بطباعة الاسئلة و تخزين الاجوبة ضمن ال Dictionary s2 اذا كان الجواب صحيح يتم زيادة العدد بمقدار واحد واذا كان الجواب خطأ لا يتم التعديل على قيمة العدد ثم يتم تخزين الاسم و الاجوبة ضمن dictionary s1 ويتم طباعة هذا القاموس مع قيمة ثم نطبع النتيجة

3.py - E:/Sana/3.py (3.10.4)

File Edit Format Run Options Window Help

```
import json

print("a or b")
s0 = 0
s1={}
s2=[]
fun1 = input("enter function name:")
with open ("question.json","r") as f :
    Q=json.loads(f.read())
    for i in Q:
        print (i)
        a = input ("enter the answer:")
        s2.append(a)
        if a == Q[i]:
            print('Good answer')
            s0=s0+1
        else :
            print('False')
            s0=s0

s1 = {fun1:s2}
print (s1)
print ('final:',s0)
```




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) [MSO
Type "help", "copyright", "credits" or "license()" for more info
>>>
===== RESTART: E:/Sana/3.py =====
a or b
enter function name:a
What does this function do?len():
a)Number of items in array
b)Index of the value withen the array
enter the answer:a
Good answer
What does this function do?max():
a)The maximum number
b)The minimum number
enter the answer:a
Good answer
What does this function do?min():
a)The maximum number
b)The minimum number
enter the answer:a
False
What does this function do?sum():
a)Adds an object to the array
b)sum of numbers
enter the answer:a
False
What does this function do?index():
a)Index of the value withen the array
b)Number of items in array
enter the answer:a
Good answer
What does this function do?reverse():
a)Index of the value withen the array
b)Reflects the elements of the array
enter the answer:a
False
What does this function do?clear():
a)Complety delets the array elements
b)Adds an object to the array
enter the answer:a
Good answer
```



```
Good answer
What does this function do?reverse():
a)Index of the value withen the array
b)Reflects the elements of the array
enter the answer:a
False
What does this function do?clear():
a)Completly delets the array elements
b)Adds an object to the array
enter the answer:a
Good answer
What does this function do?del():
a)Completly delets the array elements
b)Delete the last element of the array
enter the answer:a
False
What does this function do?insert():
a)Adds a word to the array index
b)Adds an object to the array
enter the answer:a
Good answer
What does this function do?append():
a)Adds a word to the array index
b)Adds an object to the array
enter the answer:a
False
What does this function do?upper():
a)all characters are capital letters
b)all characters are lowercase
enter the answer:a
Good answer
What does this function do?lower():
a)all characters are capital letters
b)all characters are lowercase
enter the answer:b
Good answer
What does this function do?count():
a)all characters are lowercase
b)count the number of times a character is repeated
enter the answer:b
Good answer
---
```


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5th , Network Programming : Homework
No1



الجمهورية العربية السورية

اللاذقية - جامعة تشرين

كلية الهندسة الكهربائية والميكانيكية

قسم هندسة الاتصالات والالكترونيات

السنة الخامسة: وظيفة ١ برمجة شبكات

```
IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
b)count the number of times a character is repeated
enter the answer:b
Good answer
What does this function do?capitlize():
a)The first letter in capital
b)all characters are capital letters
enter the answer:a
Good answer
What does this function do?title():
a)each character after the space is capitalized
b)all characters are capital letters
enter the answer:a
Good answer
What does this function do?rstrip():
a>Delete the spaces from the end of str
b)all characters are lowercase
enter the answer:a
Good answer
What does this function do?extend():
a)all characters are lowercase
b)adds more than object
enter the answer:b
Good answer
What does this function do?split():
a)convert to list
b)convert to string
enter the answer:a
Good answer
What does this function do?join():
a)convert to list
b)convert to string
enter the answer:b
Good answer
What does this function do?remove():
a>Delete the first apperance
b>Delete the spaces from the end of str
enter the answer:a
Good answer
{'a': ['a', 'a', 'a', 'a', 'a', 'a', 'a', 'a', 'a', 'a', 'a', 'a', 'b', 'b', 'a', 'a', 'a', 'b', 'a', 'b', 'a']}
final: 15
```