<div dir="rtl">

على محمد منصور   2990

</div>

Question 1: Python Basics?

A-If you have two lists, L1=['HTTP','HTTPS','FTP','DNS']   L2=[80,443,20,53], convert it to generate this

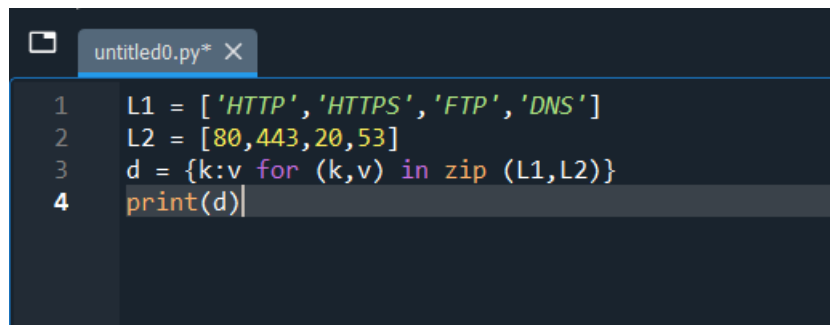 dictionary d={'HTTP':80,'HTTPS':443,'FTP':20,'DNS':53 }

L1 = ['HTTP','HTTPS','FTP','DNS']
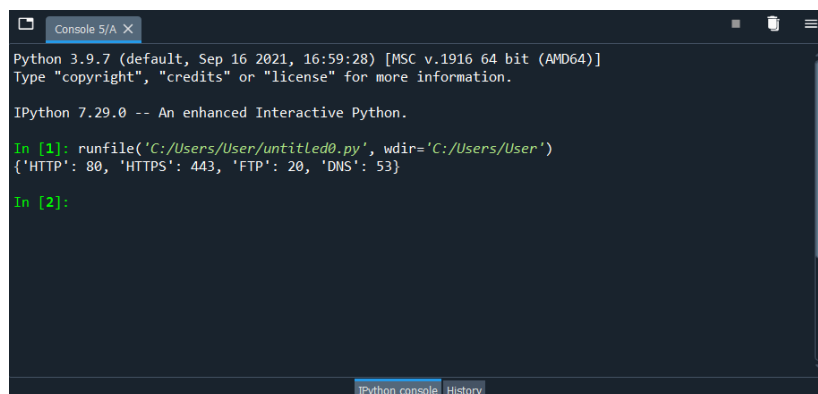
L2 = [80,443,20,53]

d = {k:v for (k,v) in zip (L1,L2)}

print(d)

<div dir="rtl">

عرفنا قائمة L1 و قائمة L2 و تم بناء قاموس باستخدام طريقة dictionary comprehension واستخدمنا التابع ()zip للجمع بين عناصر القائمتين حسب الفهارس

</div>

```
untitled0.py* ×
1   L1 = ['HTTP','HTTPS','FTP','DNS']
2   L2 = [80,443,20,53]
3   d = {k:v for (k,v) in zip (L1,L2)}
4   print(d)
```

```
Console 5/A ×
Python 3.9.7 (default, Sep 16 2021, 16:59:28) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 7.29.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/User/untitled0.py', wdir='C:/Users/User')
{'HTTP': 80, 'HTTPS': 443, 'FTP': 20, 'DNS': 53}

In [2]:
```
```
                    IPython console  History
```

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

   Tips: "List Comprehension"

L = [x for x in range (2,1001) if all(x%i!=0 for i in range (2,x))]

print(L)

<div dir="rtl">

استخدمنا list comprehension لبناء قائمة تحوي الأعداد الأولية ضمن المجال المعطى باستخدام الشرط السابق

</div>

```
C:\Users\User\untitled1.py

  untitled1.py* ✕

1    L = [x for x in range (2,1001) if all(x%i!=0 for i in range (2,x))]
2    print(L)
```

```
  Console 6/A ✕                                               ■  📋  ≡

Python 3.9.7 (default, Sep 16 2021, 16:59:28) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 7.29.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/User/untitled1.py', wdir='C:/Users/User')
[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97,
101, 103, 107, 109, 113, 127, 131, 137, 139, 149, 151, 157, 163, 167, 173, 179, 181, 191, 193,
197, 199, 211, 223, 227, 229, 233, 239, 241, 251, 257, 263, 269, 271, 277, 281, 283, 293, 307,
311, 313, 317, 331, 337, 347, 349, 353, 359, 367, 373, 379, 383, 389, 397, 401, 409, 419, 421,
431, 433, 439, 443, 449, 457, 461, 463, 467, 479, 487, 491, 499, 503, 509, 521, 523, 541, 547,
557, 563, 569, 571, 577, 587, 593, 599, 601, 607, 613, 617, 619, 631, 641, 643, 647, 653, 659,
661, 673, 677, 683, 691, 701, 709, 719, 727, 733, 739, 743, 751, 757, 761, 769, 773, 787, 797,
809, 811, 821, 823, 827, 829, 839, 853, 857, 859, 863, 877, 881, 883, 887, 907, 911, 919, 929,
937, 941, 947, 953, 967, 971, 977, 983, 991, 997]

In [2]:
                        IPython console   History
```

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 'Ph' letter, then print it on screen.

 Tips: using loop, 'len ()' , startswith() methods.

L = ['Network','Math','Programming','Physics','Music']
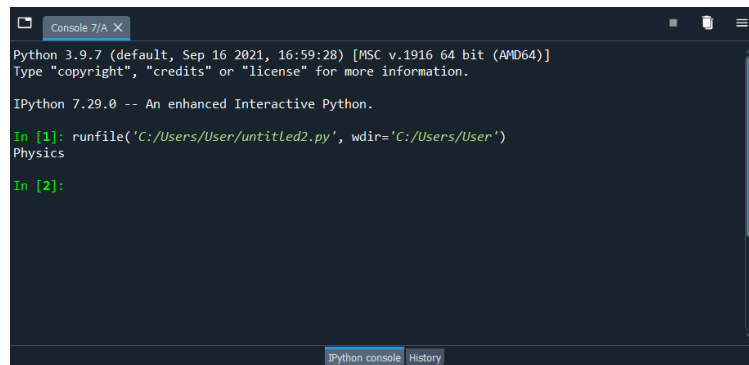
for i in L :

----if i.startswith('Ph'):

--------print(i)

عرفنا قائمة L تحوي العناصر السابقة ثم بواسطة حلقة For مررنا على عناصر القائمة السابقة وباستخدام
الميثود ()startswith بحثنا عن عنصر يبدأ ب Ph

```
C:\Users\User\untitled2.py

   untitled2.py* ✕

1    L = ['Network','Math','Programming','Physics','Music']
2    for i in L :
3        if i.startswith('Ph'):
4            print(i)
```
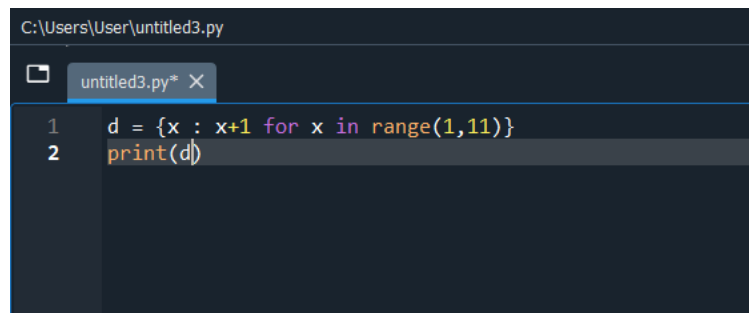
D: Using Dictionary comprehension, Generate this dictionary
d={1:2,2:3,3:4,4:5,5:6,6:7,7:8,8:9,9:10,10:11}
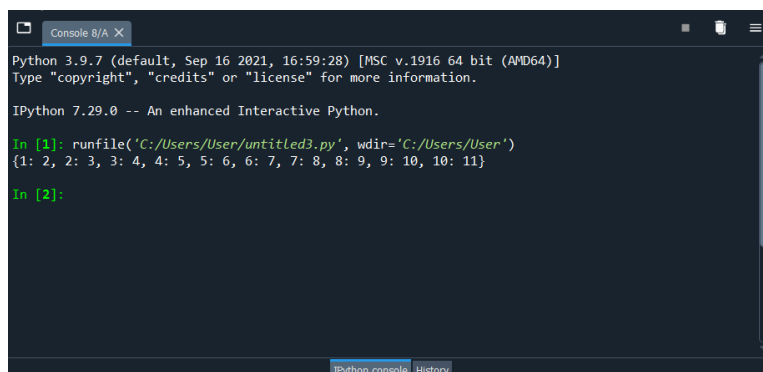
d = {x : x+1 for x in range(1,11)}

print(d)

اعتماداً على dictionary comprehension تم بناء قاموس حيث أن 1+ value=key

```
C:\Users\User\untitled3.py

untitled3.py* ×

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

Question 2: Convert from Binary to Decimal

Write a Python program that converts a Binary number into its equivalent Decimal number. The program should start reading the binary number from the user. Then the decimal equivalent number must be calculated. Finally, the program must display the equivalent decimal number on the screen.

 Tips: solve input errors.

while True:

---- Binary_number = input("Enter Binary Number or Enter 'e' to end: ")

---- if Binary_number == 'e':

-------- break

---- Decimal_number = 0

----for i in Binary_number:

-------- if i not in ['0','1']:

------------print ("ادخال خاطئ ، أدخل رقم ثنائي")

------------ break

---- else:

-------- for x in range(len(Binary_number)):

------------ Decimal_number += int(Binary_number[x])*2**(len(Binary_number)-1-x)

-------- print(Binary_number,"=",Decimal_number)
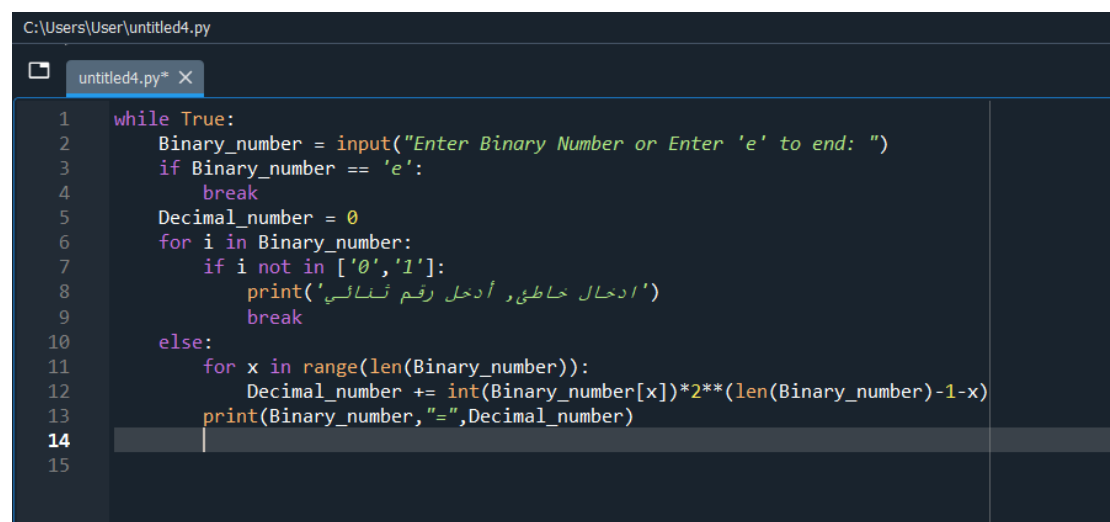
بناء كود لتحويل رقم ثنائي يدخله المستخدم إلى رقم عشري اعتماداً على المعادلة الرياضية

$$(X)_{10} = \sum_{i=0}^{n} 2^i$$

وتمت معالجة الادخال الخاطئ عن طريق تفحص السلسلة التي يدخلها المستخدم اذ كانت تحوي أي قيم غير 0 أو 1

ونفذنا الكود السابق ضمن حلقة while لانهائية في حال أراد المستخدم الخروج من البرنامج يدخل المحرف e

ملاحظة: في كتابة الأكود استخدمت (----) عوضاً عن الفراغ الذي يستخدم في Python للتوضيح فقط

```
C:\Users\User\untitled4.py
untitled4.py* ✕
1   while True:
2       Binary_number = input("Enter Binary Number or Enter 'e' to end: ")
3       if Binary_number == 'e':
4           break
5       Decimal_number = 0
6       for i in Binary_number:
7           if i not in ['0','1']:
8               print('ادخال خاطئ, أدخل رقم ثنائي')
9               break
10      else:
11          for x in range(len(Binary_number)):
12              Decimal_number += int(Binary_number[x])*2**(len(Binary_number)-1-x)
13          print(Binary_number,"=",Decimal_number)
14
15
```

```
Console 18/A ✕                                               ■  🗑  ≡

In [1]: runfile('C:/Users/User/untitled4.py', wdir='C:/Users/User')

Enter Binary Number or Enter 'e' to end: aa
                                            ادخال خاطئ, أدخل رقم ثنائي

Enter Binary Number or Enter 'e' to end: 12
                                            ادخال خاطئ, أدخل رقم ثنائي

Enter Binary Number or Enter 'e' to end: 11102
                                            ادخال خاطئ, أدخل رقم ثنائي

Enter Binary Number or Enter 'e' to end: 111
111 = 7

Enter Binary Number or Enter 'e' to end: 10
10 = 2

Enter Binary Number or Enter 'e' to end: 10001
10001 = 17

Enter Binary Number or Enter 'e' to end: e

In [2]:

                         IPython console   History
```

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 csv or json file.

```python
f=open("d:\\f1.txt","r")

s = f.read()

qa = s.splitlines()

questions=[]

answers=[]

for i in range(0,20):

----questions.append(qa[i])

for j in range(20,40):

----answers.append(qa[j])

score = 0

name = input("Enter your name:")
```

```python
for k in range(len(questions)):
----print("Question",1+k,":",questions[k])
----user_ans = input("ANSWER IS:")
----if user_ans.lower() == answers[k].lower():
--------print ("إجابة صحيحة")
--------score += 1
----else:
--------print ("إجابة خاطئة")
print("your score=",score,"/",len(questions))
f.close()
score1=str(score)
result= [name," ",score1]
print(result)
w=open("d:\\result.txt","w")
w.writelines(result)
w.close()
```

تم فتح الملف النصي (للقراءة) الذي يحوي ٢٠ سؤال و ٢٠ جواب وجعلنا الأسئلة والاجوبة (على التوالي) ضمن قائمة

ثم تم استخراج الأسئلة ضمن مصفوفة questions

واستخراج الأجوبة ضمن مصفوفة answers

طلبنا من المستخدم ادخال اسمه

وباستخدام حلقة for طلبنا من المستخدم عن طريق تعليمة الادخال الإجابة عن الأسئلة على التوالي

وضمن الحلقة يتم مقارنة إجابة المستخدم مع الإجابة المخزنة في المصفوفة answers

في حال كانت الإجابة صحيحة يطبع ذلك و يزيد ال score وإلا يطبع إجابة خاطئة

ثم عند الانتهاء من تنفيذ الحلقة يطبع اسم المستخدم والنتيجة

و بعدها نفتح ملف (للكتابة) و نخزن فيه اسم المستخدم و النتيجة

D:\untitled2.py

untitled2.py* ×

```python
f=open("d:\\f1.txt","r")
s = f.read()
qa = s.splitlines()
questions=[]
answers=[]
for i in range(0,20):
    questions.append(qa[i])
for j in range(20,40):
    answers.append(qa[j])
score = 0
name = input("Enter your name:")
for k in range(len(questions)):
    print("Question",1+k,":",questions[k])
    user_ans = input("ANSWER IS:")
    if user_ans.lower() == answers[k].lower():
        print("اجابة صحيحة")
        score += 1
    else:
        print("اجابة خاطئة")
print("your score=",score,"/",len(questions))
f.close()
score1=str(score)
result= [name,"  ",score1]
print(result)
w=open("d:\\result.txt","w")
w.writelines(result)
w.close()
```

```
Enter your name:Ali Mansour
Question 1 : The World Cup is held every four years. True or False

ANSWER IS:true
                                                            اجابة صحيحة
Question 2 : The MLS is the top tier of American football. True or False

ANSWER IS:false
                                                            اجابة صحيحة
Question 3 : Lionel Messi plays for Barcelona. True or False

ANSWER IS:true
                                                            اجابة صحيحة
Question 4 : The UEFA European Championship was first held in 1960. True or False

ANSWER IS:false
                                                            اجابة خاطئة
Question 5 : Zlatan Ibrahimovic is a retired Swedish footballer. True or False

ANSWER IS:false
                                                            اجابة صحيحة
Question 6 : The Copa Libertadores is a South American club competition. True or False

ANSWER IS:false
                                                            اجابة خاطئة
Question 7 : The offside rule applies to goalkeepers. True or False

ANSWER IS:true
                                                            اجابة خاطئة
```

```
Question 8 : The Ballon d'Or is awarded to the best player in the world. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
Question 9 : Brazil has won the most World Cup titles. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
Question 10 : Diego Maradona was a legendary Argentine footballer. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
Question 11 : The Scottish Premiership is the top tier of Scottish football. True or False

ANSWER IS:false
                                                                      اجابة خاطئة
Question 12 : The UEFA Nations League is a biennial competition. True or False

ANSWER IS:true
                                                                      اجابة خاطئة
Question 13 : Kylian Mbappe currently plays for Real Madrid. True or False

ANSWER IS:false
                                                                      اجابة صحيحة
Question 14 : The Serie A is the top tier of Italian football. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
Question 15 : The UEFA Super Cup is a one-off match between the Champions League and Europa League
winners. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
```

```
Question 16 : The Asian Cup is a tournament for Asian national teams. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
Question 17 : Cristiano Ronaldo has won the Champions League with three different clubs. True or
False

ANSWER IS:false
                                                                      اجابة خاطئة
Question 18 : The CONCACAF Gold Cup is a tournament for North American, Central American, and
Caribbean teams. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
Question 19 : Luis Suarez currently plays for Atletico Madrid. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
Question 20 : The Copa del Rey is a Spanish domestic cup competition. True or False

ANSWER IS:true
                                                                      اجابة صحيحة
your score= 14 / 20
['Ali Mansour', '   ', '14']

In [3]:
```

```
ملف  تحرير  تنسيق  عرض  تعليمات
Ali Mansour  14
```

```
The World Cup is held every four years. True or False
The MLS is the top tier of American football. True or False
Lionel Messi plays for Barcelona. True or False
The UEFA European Championship was first held in 1960. True or False
Zlatan Ibrahimovic is a retired Swedish footballer. True or False
The Copa Libertadores is a South American club competition. True or False
The offside rule applies to goalkeepers. True or False
The Ballon d'Or is awarded to the best player in the world. True or False
Brazil has won the most World Cup titles. True or False
Diego Maradona was a legendary Argentine footballer. True or False
The Scottish Premiership is the top tier of Scottish football. True or False
The UEFA Nations League is a biennial competition. True or False
Kylian Mbappe currently plays for Real Madrid. True or False
The Serie A is the top tier of Italian football. True or False
The UEFA Super Cup is a one-off match between the Champions League and Europa League winners. True or False
The Asian Cup is a tournament for Asian national teams. True or False
Cristiano Ronaldo has won the Champions League with three different clubs. True or False
The CONCACAF Gold Cup is a tournament for North American, Central American, and Caribbean teams. True or False
Luis Suarez currently plays for Atletico Madrid. True or False
The Copa del Rey is a Spanish domestic cup competition. True or False
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