

Question 1:

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 ادخال مجموعة أسماء للطلاب المتخرجين ضمن قائمة ثم يطلب من المستخدم ادخال اسم اذا كان هذا الاسم من أسماء

الطلاب المتخرجين سيطبع له الاسم وأنه متخرج وإلا سيطبع الاسم وأنه غير متخرج

```
graduate_student=["ahmad","sara","lama","ali","hasan","ruba"]

name =input("enter name")
if name in graduate_student:

    print(name + " is graduate")

else:
    print(name + " in not graduate")
```

```
comperhens
C:\Users\Windows.10\PycharmProjects\untitled1\venv\Scripts\python.exe C:/
enter nameali
ali is graduate

Process finished with exit code 0
```

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

باستخدام ال List Comprehension. من أجل عدد x باستخدام حلقة for ضمن المجال (1,100) مع تطبيق الشرط if أنه اذا كان باقي قسمة العدد x على 2 لا يساوي الصفر (أي اذا كان عدد فردي) اطبع هذا العدد بالتالي ستمر الحلقة على الاعداد الواقعة ضمن هذا المجال وكل عدد باقي قسمة على 2 لا يساوي الصفر سيتم طباعة

```
l=[x for x in range (1,101) if x%2!=0]
print(l)
```

```
comperhens listcomp
C:\Users\Windows.10\PycharmProjects\untitled1\venv\Scripts\python.exe C:/Users/Windows.10/PycharmProjects/untitled1/listcomp.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]

Process finished with exit code 0
```

C- L=['Network' , 'Math' , 'Programming' , 'Physics' , 'Music']

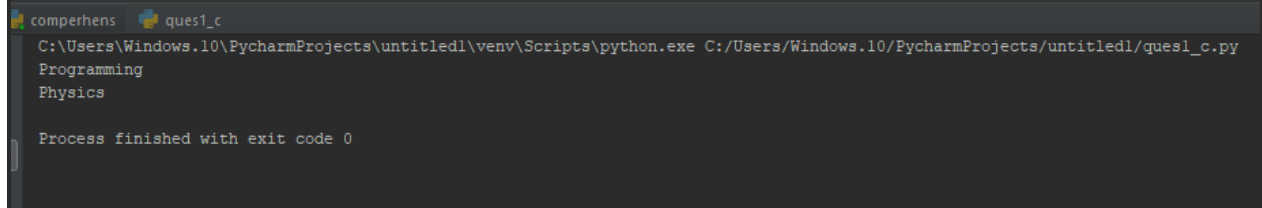
In this exercise, you will implement a Python program that reads the items of the previous list and identifies the items that starts with 'P' letter, then print it on screen.

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

استخدمت حلقة for للمرور على عناصر القائمة المطلوبة ثم استدعيت تابع start الذي يقوم باختبار إذا كان الحرف الأول من العنصر الممرر له هو p في حال تحقق الشرط سيُطبع العنصر وبهذه الطريقة سيتم طباعة العناصر التي تبدأ ب p وهي physics , programming

```
L=['Network' , 'Math' , 'Programming' , 'Physics' , 'Music']
for x in range(len(L)):
    if L[x][0]=='P':

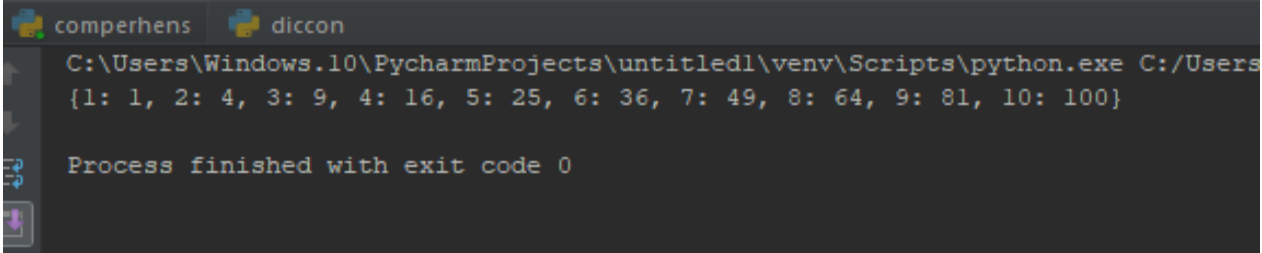
        print(L[x])
```



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}

من أجل عدد x يقع في المجال من 1 إلى 10 باستخدام ال Dictionary comprehension تم استخدام حلقة for لتمر على هذه الأعداد ضمن هذا المجال وتعيد مربع كل عدد ضمن هذا المجال, إذ يكون ال key هو العدد x وال value هي x^2

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



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.

Number=10 → binary=1010

10//2=5 rem=0

5//2=2 rem=1

2//1=2 rem=0

1//0*2 rem=1

```
number=int(input("enter decimal number"))
b=[]
while number > 0:

    rem=number%2
    number = number // 2
    b.append (rem)
b.reverse()
print(b)
```

Run conmm

C:\Users\Windows.10\PycharmProjects\untitled1\venv\Scripts\python.exe C:/Users/Windows.10/PycharmProjects/untitled1/conmm.py

enter decimal number 10

[1, 0, 1, 0]

Process finished with exit code 0

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.

```

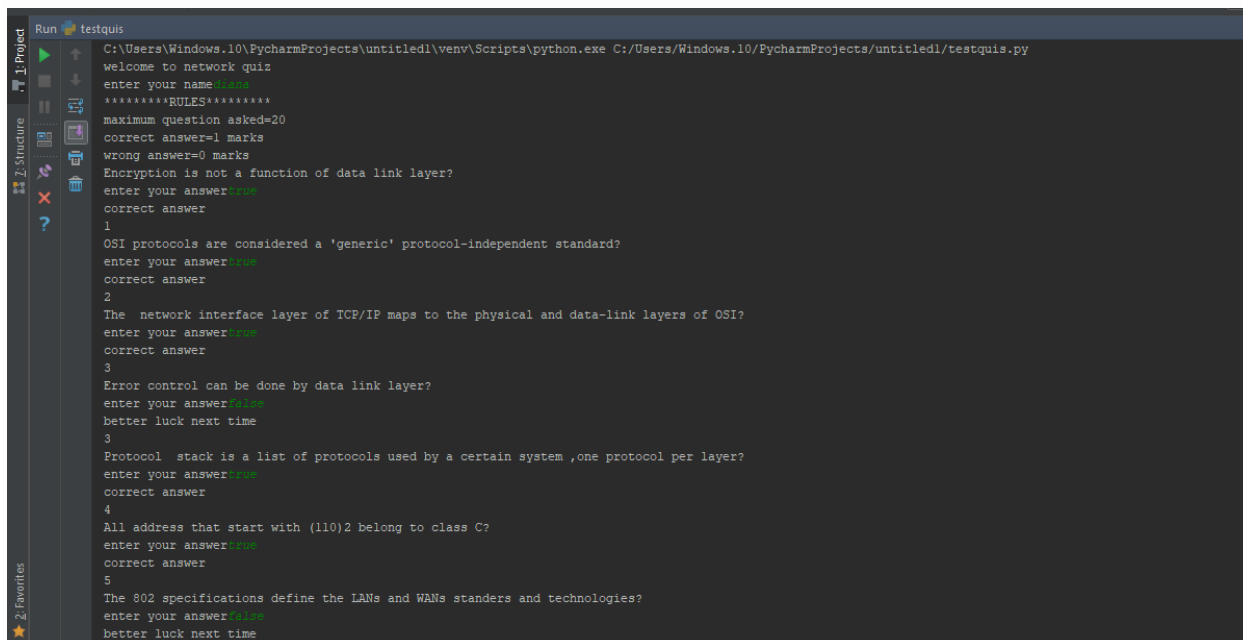
import random
scores=0
print("welcome to network quiz")
name=input("enter your name")
riddle={}
with open("riddles.text",'r') as f:
    questions=f.readlines()
    for question in questions:
        q,a=question.strip().split(':')
        riddle[q]=a
        #print the rules
print("*****RULES*****")
print("maximum question asked=20")
print("correct answer=1 marks")
print("wrong answer=0 marks")

#initialise the questions asked count
qcount=0
#get keys all keys from riddles and convert to list
questions=list(riddle.keys())
#shuffle the list
random.shuffle(questions)
#read each question from the list
for q in questions:
    print(q)
    ans=input("enter your answer")
    #compare both answers by converting to same case and update and print score
    if ans.upper()==riddle[q].upper():
        print("correct answer")
        scores+=1
    else:
        print("better luck next time")
        scores=scores
    print(scores)
    #increment question count and exit if 5 questions asked
    qcount+=1
    if qcount==20:
        break
print("end of quiz")
print(name + " total score= ",scores)

```

riddles .text:

```
Flow control can be done at data link and network layers?:false
The 802 specifications define the LANs and WANs standers and technologies?:true
The data link layer is responsible for data control?:true
The network layer is responsible for process to process delivery of the enter
massage?:false
The network layer is concerned with routing?:true
Error control can be done by data link layer?:true
OSI protocols are considered a 'generic' protocol-independent standard?:true
Functions in peer-to-peer layers are performed at the end user devices?:true
Error correction and retransmission can be done at data link and transport
layers?:true
Protocol stack is a list of protocols used by a certain system ,one protocol per
layer?:true
In the protocol stack there can be more than one protocol per layer?:false
In some applications higher layer encapsulates the lower layer data unit?:false
The network interface layer of TCP/IP maps to the physical and data-link layers of
OSI?:true
Both data link and network layers can provide flow control?:false
The delivery of a packet at the network layer is nod-to-nod?:false
Encryption is not a function of data link layer?:true
In classes addressing the prefix length defines the mask?:true
The IP address identifies advice connected to the internet?:true
is the broadcast address of its block 199.34.76.79/28?:true
All address that start with (110)2 belong to class C?:true
```



The screenshot shows a PyCharm IDE with a terminal window titled 'testquis'. The terminal output displays a quiz script that asks various questions about network layers and protocols. The script includes a welcome message, rules, and a series of questions with user input and correct answers. The questions are numbered 1 through 5. The script ends with a 'better luck next time' message.

```
Run testquis
C:\Users\Windows.10\PycharmProjects\untitled1\venv\Scripts\python.exe C:/Users/Windows.10/PycharmProjects/untitled1/testquis.py
welcome to network quiz
enter your name <name>
*****RULES*****
maximum question asked=20
correct answer=1 marks
wrong answer=0 marks
Encryption is not a function of data link layer?
enter your answer <yes>
correct answer
1
OSI protocols are considered a 'generic' protocol-independent standard?
enter your answer <yes>
correct answer
2
The network interface layer of TCP/IP maps to the physical and data-link layers of OSI?
enter your answer <yes>
correct answer
3
Error control can be done by data link layer?
enter your answer <false>
better luck next time
3
Protocol stack is a list of protocols used by a certain system ,one protocol per layer?
enter your answer <yes>
correct answer
4
All address that start with (110)2 belong to class C?
enter your answer <yes>
correct answer
5
The 802 specifications define the LANs and WANs standers and technologies?
enter your answer <true>
better luck next time
```

```
Run testquis
0
In the protocol stack there can be more than one protocol per layer?
enter your answertrue
better luck next time
5
Error correction and retransmission can be done at data link and transport layers?
enter your answerfalse
better luck next time
5
The network layer is responsible for process to process delivery of the enter message?
enter your answerfalse
correct answer
6
is the broadcast address of its block 199.34.76.79/28?
enter your answertrue
correct answer
7
In classes addressing, the prefix length defines the mask?
enter your answertrue
correct answer
8
Both data link and network layers can provide flow control?
enter your answerfalse
correct answer
9
Functions in peer-to-peer layers are performed at the end user devices?
enter your answertrue
correct answer
10
Flow control can be done at data link and network layers?
enter your answertrue
better luck next time
10
The network layer is concerned with routing?
enter your answertrue
```

```
11
The data link layer is responsible for data control?
enter your answertrue
correct answer

12
The delivery of a packet at the network layer is nod-to-nod?
enter your answerfalse
correct answer

13
The IP address identifies advice connected to the internet?
enter your answertrue
correct answer

14
In some applications higher layer encapsulates the lower layer data unit?
enter your answerfalse
correct answer

15
end of quiz
diana total score= 15

Process finished with exit code 0
|
```