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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.

```
x = ["Ahmad", "Basel", "Cema", "Dall", "Eman"]
y = input("enter the name: ")
if y in x:
    print("student graduated")
else:
    print("student not graduated")
```

باستخدام if يختبر الكود وجود اسم يدخله المستخدم ضمن مصفوفة الطلاب المتخرجين

```
enter the name: Ahmad
student graduated
```

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

```
odd = [i for i in range(0, 1000) if (i % 2 != 0)]
print(odd)
```

مصفوفة تضم الاعداد الفردية List Comprehension

```
[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,
```

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

```
L=["Network","Math","Programming","Physics","Music"]
sp=[]
for i in L:
    if i[0] == 'P':
        sp.append(i)
y=len(sp)
print("there is " + str(y) + " start with p: " + str(sp))
```

تم المرور على عناصر المجم وعة باستخدام حلقة for و التأكد من الحرف الأول وطباعة العناصر التي تحوي حرف p في البدي ة

```
there is 2 start with p: ['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}

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

قمنا بتخزين العدد ومربعه ضمن dictionary باستخدام حلقة for

```
{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.

```
dec_num=int(input("enter a decimal number: "))
bin_num=[]
x=""
while dec_num!=0:
    y= dec_num % 2
    bin_num.append(y)
    dec_num= dec_num // 2
bin_num.reverse()
for i in bin_num:
    x=x+str(i)
print("the binary number is: "+x)
```

يدخل المستخدم عدد عشري يقوم البرنامج بتحويله الى عدد ثنائي وطباعته

```
enter a decimal number: 8
the binary number is: 1000
```

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 json
s={}
s_name=input("enter your name: ")
with open("A.json","r") as A:
    fA = json.load(A)
with open("Q.json","r") as Q:
    fQ = json.load(Q)
stanswer=[]
for key,value in fQ.items():
    print(key)
    print(value)
    answer=input("enter answer")
    stanswer.append(answer)
x=0
for i in range(0,20):
    if stanswer[i]==fA[i]:
        x+=1
s[s_name]=x
print("the reselt is: " + str(x))
with open("save.json","w") as save:
    fm = json.dumps(s)
    save.write(fm)
```

الأسئلة و الاجابات موجودة ضمن ملف json يتم استدعائه ضمن الكو د حيث يجب الطالب على كل سؤال بالترتيب و يتم تخزين اجاباته ضمن مصفوفة يتم مقارنتها بالإجابات الصحيحة و إعطاء العلامة المناسبة باستخدام عداد يت ازيد مع

كل تطابق و يتم تخزين إجابة الطالب في ملف json مع اسمه

```
enter your name: x
1.Questions
['A', 'B', 'C']
enter answerA
2.Questions
['A', 'B', 'C']
enter answerC
3.Questions
['A', 'B', 'C']
enter answerB
4.Questions
['A', 'B', 'C']
enter answerA
5.Questions
['A', 'B', 'C']
enter answerC
6.Questions
['A', 'B', 'C']
enter answerB
7.Questions
['A', 'B', 'C']
enter answerA
8.Questions
['A', 'B', 'C']
enter answerC
9.Questions
['A', 'B', 'C']
enter answerB
10.Questions
['A', 'B', 'C']
enter answerA
```

```
19.Questions
['A', 'B', 'C']
enter answerB
20.Questions
['A', 'B', 'C']
enter answerA
the reselt is: 12
```

تم حفظ النتيجة كالتال ي