



الجمهورية العربية السورية

اللاذقية- جامعة تشرين

كلية الهندسة الكهربائية والميكانيكية

قسم هندسة الاتصالات والالكترونيات

السنة الخامسة: وظيفة ١ برمجة شبكات

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Question 1: Python Basics?

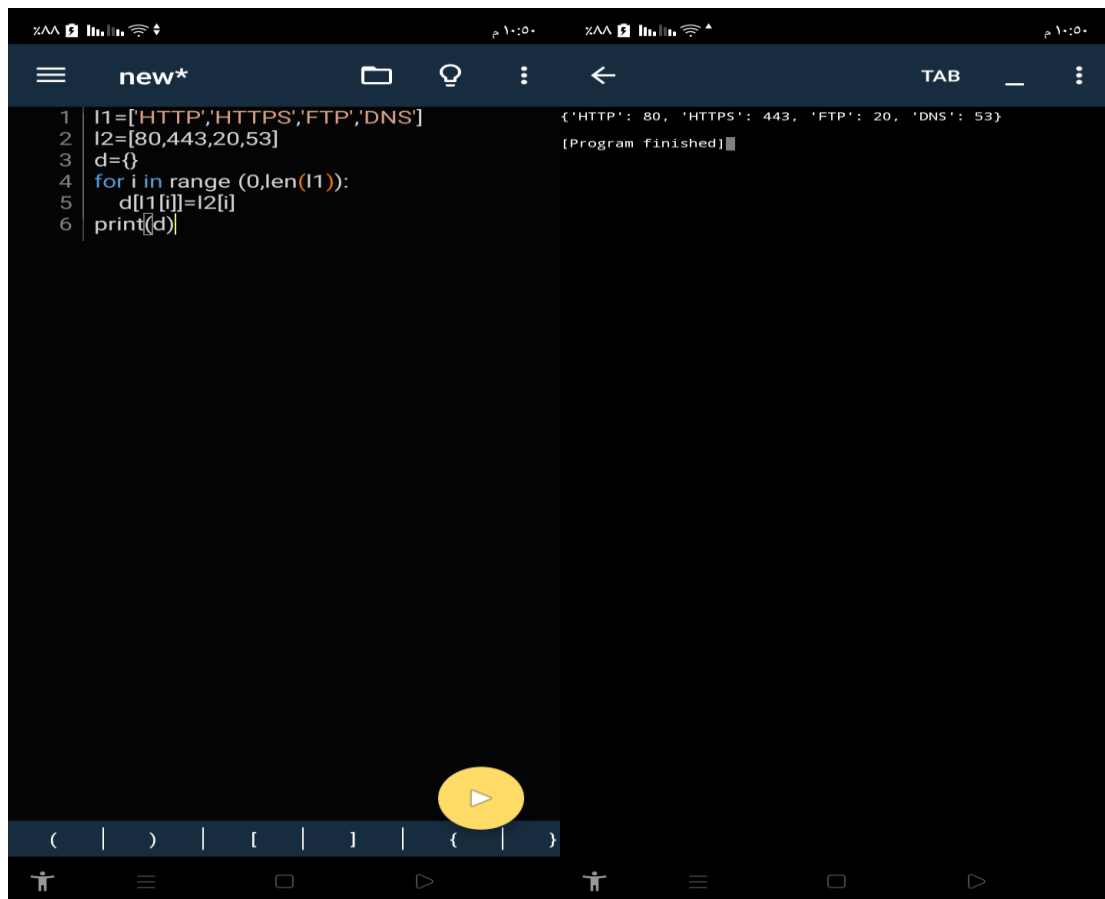
A- If you have two lists, L1=['HTTP','HTTPS','FTP','DNS']

L2=[80,443,20,53], convert it to generate this

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

شرح الكود:

هنا تم وضع قيم كل من l1 كمفاتيح (keys) و l2 كقيم (values) عبر حلقة for



```
1 l1=['HTTP','HTTPS','FTP','DNS']
2 l2=[80,443,20,53]
3 d={}
4 for i in range (0,len(l1)):
5     d[l1[i]]=l2[i]
6 print(d)
```

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

[Program finished]

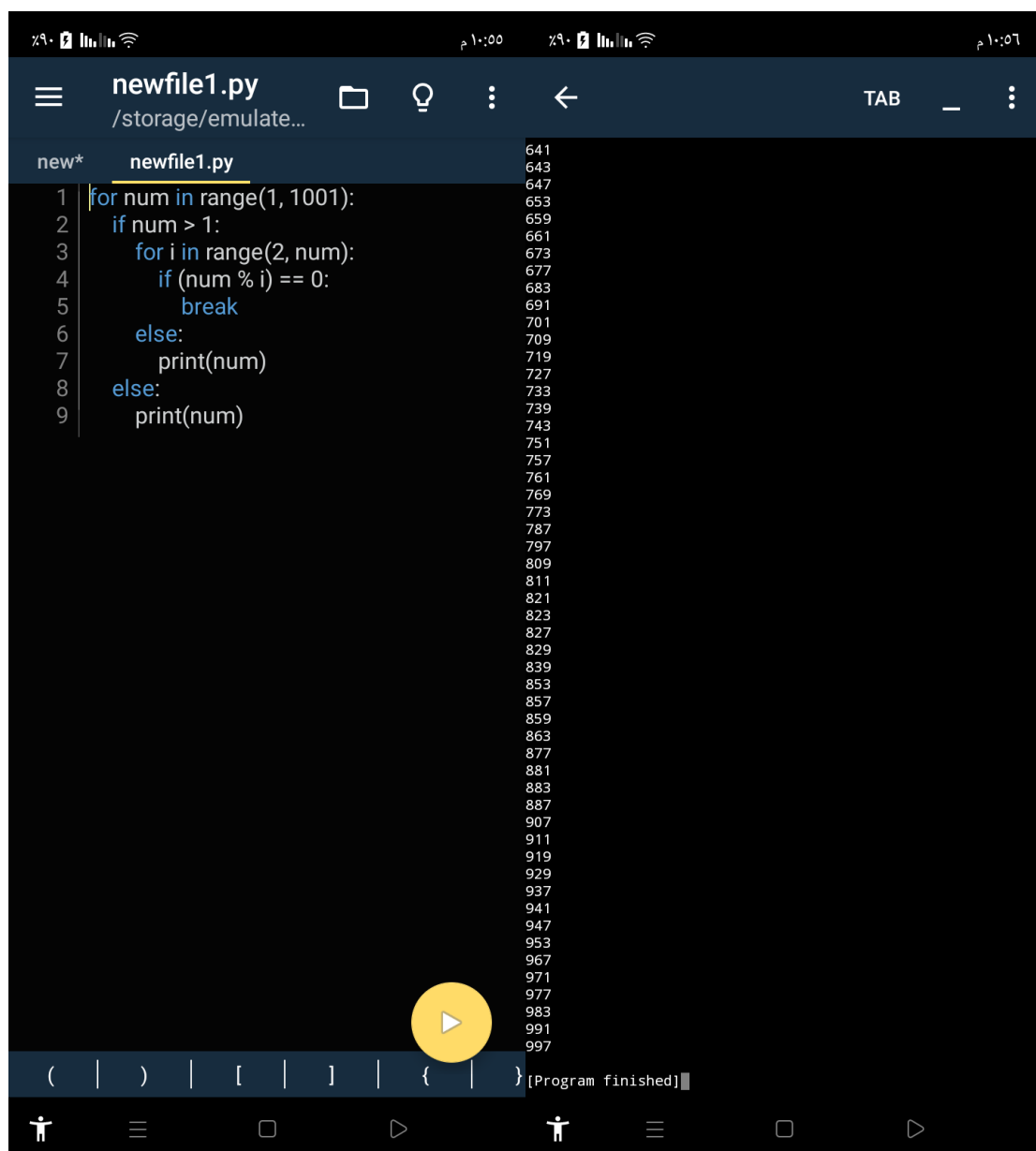
B- Generate and print a list of primary numbers from 1 to 1000.

شرح الكود:

قمنا عن طريق حلقة for بطباعة مجموعة الاعداد الاولى من ال[1,1000] وذلك باستخدام

شرط باقي قسمة العدد على جميع الاعداد الذي اصغر منه

فاذا قبل العدد القسمة على رقم واحد غير نفسه و الواحد يكون غير اولي



```
newfile1.py
/storage/emulate...
new* newfile1.py
1 for num in range(1, 1001):
2   if num > 1:
3     for i in range(2, num):
4       if (num % i) == 0:
5         break
6     else:
7       print(num)
8 else:
9   print(num)
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
[Program finished]
```

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

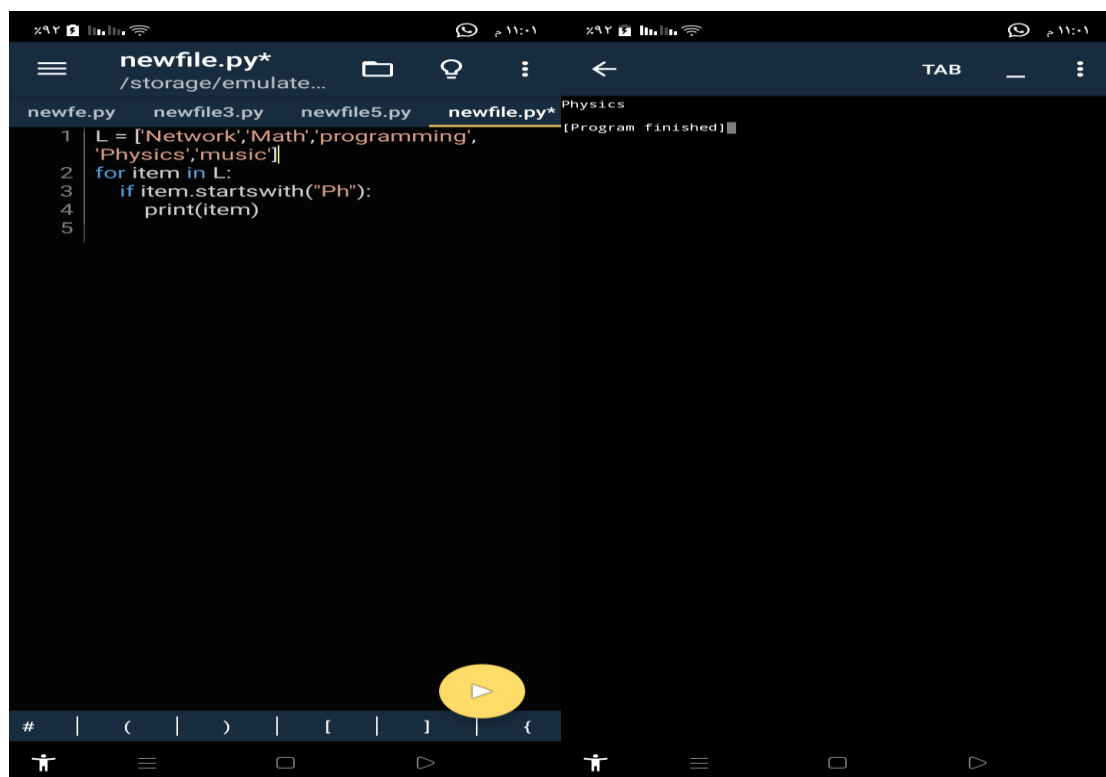
In this exercise, you will implement a Python program that reads the items of the previous list and identifies

the items that starts with 'Ph' letter, then print it on screen.

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

شرح الكود:

تم استخدام حلقة for وذلك للمرور على عناصر القائمة والتي هي من نوع (str) وكما استخدمنا startswith() والتي نقوم بفحص اذا كان عنصر من القائمة قد بدا بحرف ما او سلسلة محرفية معينة



```
newfile.py*
/storage/emulate...
newfe.py  newfile3.py  newfile5.py  newfile.py*
1 L = ['Network','Math','programming',
2   'Physics','music']]
3 for item in L:
4     if item.startswith("Ph"):
5         print(item)

Physics
[Program finished]
```

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}

شرح الكود :

صممنا Dictionary comprehension وذلك وفق :

Value=key+1

The screenshot shows a Python IDE interface. The top bar displays the file name 'newfile5.py' and the path '/storage/emulate...'. Below the top bar, there are four tabs: 'newfe.py', 'newfile3.py', 'newfile5.py' (which is the active tab), and 'newfile.py*'. The main editor area shows the following Python code:

```
1 d={}
2 for i in range(1,11):
3     d[i]=i+1
4 print (d)
```

On the right side of the editor, the output is displayed:

```
{1: 2, 2: 3, 3: 4, 4: 5, 5: 6, 6: 7, 7: 8, 8: 9, 9: 10, 10: 11}
[Program finished]
```

At the bottom of the IDE, there is a toolbar with various icons, including a yellow play button icon.

Question 2: Convert from Binary to Decimal

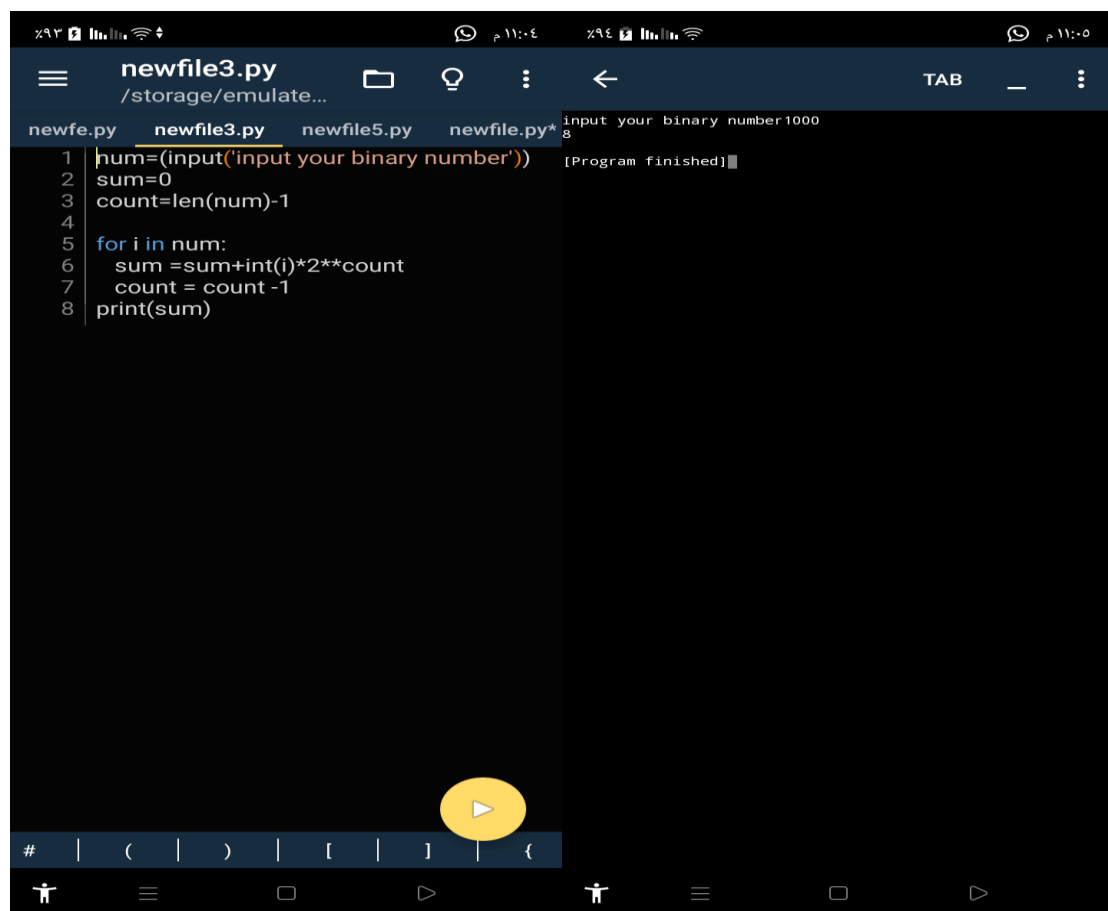
Write a Python program that converts a Binary number into its equivalent Decimal number.

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.

شرح الكود:

يقوم هذا الكود بتحويل من نظام العد الثنائي الى نظام العد العشري



The screenshot shows a Python IDE with a dark theme. The editor displays a file named `newfile3.py` with the following code:

```
1 num=(input('input your binary number'))
2 sum=0
3 count=len(num)-1
4
5 for i in num:
6     sum =sum+int(i)*2**count
7     count = count -1
8 print(sum)
```

The output console on the right shows the user input `1000` and the program output `[Program finished]`. A yellow play button is visible at the bottom center of the IDE interface.

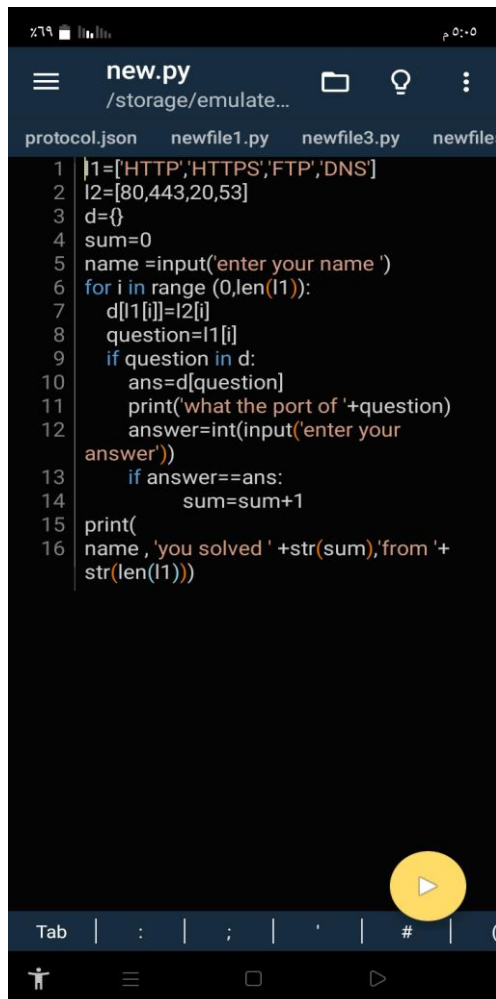
Question 3: Working with Files” Quiz Program”

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.



```
enter your name hasan
what the port of HTTP
enter your answer80
what the port of HTTPS
enter your answer443
what the port of FTP
enter your answer20
what the port of DNS
enter your answer86
hasan you solved 3 from 4
[Program finished]
```



```
new.py
/storage/emulate...
protocol.json  newfile1.py  newfile3.py  newfile5.py

1 l1=['HTTP','HTTPS','FTP','DNS']
2 l2=[80,443,20,53]
3 d={}
4 sum=0
5 name=input('enter your name ')
6 for i in range (0,len(l1)):
7     d[l1[i]]=l2[i]
8     question=l1[i]
9     if question in d:
10        ans=d[question]
11        print('what the port of '+question)
12        answer=int(input('enter your
answer'))
13        if answer==ans:
14            sum=sum+1
15 print(
16 name , 'you solved ' +str(sum),'from ' +
str(len(l1)))
```