Omar Weis's Homework

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 }**

First way

```
D: > 🐍 Omar's Homework.py > ...
1    L1 = ['HTTP', 'HTTPS', 'FTP', 'DNS']
2    L2 = [80, 443, 20, 53]
3    D1 = {}
4    for key in L1:
5        for value in L2:
6            D1[key] = value
7            L2.remove(value)
8            break
9    print(D1)
10
```

Second way

```
D: > 🐍 Omar's Homework.py > ...
1    L1 = ['HTTP', 'HTTPS', 'FTP', 'DNS']
2    L2 = [80, 443, 20, 53]
3    D1 = dict(zip(L1, L2))
4    print(D1)
5
```

The result:

```
Weis\.vscode\extensions\ms-python.python-2023.8.0\
{'HTTP': 80, 'HTTPS': 443, 'FTP': 20, 'DNS': 53}
PS D:\Programs\my python tests>
```

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

```python
# B
def is_prime(n):
    if n <= 1:
        return False
    for i in range(2, n):
        if n % i == 0:
            return False
    return True


l = [x for x in range(2, 1000) if is_prime(x)]
print(l)
```

The result:

```
Weis\.vscode\extensions\ms-python.python-2023.8.0\pythonFiles\lib\python\debugpy\adapter/../..\debugpy\launcher' '56020' '--' 'D:\Omar''s Homework.py'
[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
, 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
, 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
, 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
, 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
, 991, 997]
PS D:\Programs\my python tests>
```

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.

```
D: > 🐍 Omar's Homework.py > ...
1    # C
2    L = ['Network', 'Math', 'Programming', 'Physics', 'Music']
3    L2 = []
4    for i in range(len(L)):
5        if L[i].startswith('Ph'):
6            L2.append(L[i])
7
8    print(L2)
9
```

The result:

```
PS D:\Programs\my python tests>  d:; cd
Weis\.vscode\extensions\ms-python.python-
['Physics']
PS D:\Programs\my python tests>
```

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: > 🐍 Omar's Homework.py > ...
1    # D
2    d = {i: i+1 for i in range(1, 11)}
3    print(d)
```

The result:

```
PS D:\Programs\my python tests>  d:; cd 'd:\Programs\my python tests'; &
Weis\.vscode\extensions\ms-python.python-2023.8.0\pythonFiles\lib\python
{1: 2, 2: 3, 3: 4, 4: 5, 5: 6, 6: 7, 7: 8, 8: 9, 9: 10, 10: 11}
PS D:\Programs\my python tests>
```

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.

```python
D: > 🐍 Omar's Homework.py > ...
1    # Question 2
2    binary = input("Enter a binary number: ")
3    decimal = 0
4
5    for digit in binary:
6        decimal = decimal*2 + int(digit)
7
8    print("The decimal equivalent of", binary, "is", decimal)
9
```

The result:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

PS D:\Programs\my python tests>  d:; cd 'd:\Prog
Weis\.vscode\extensions\ms-python.python-2023.8.
Enter a binary number: 1000
The decimal equivalent of 1000 is 8
PS D:\Programs\my python tests>
```

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
D: > 🐍 Omar's Homework.py > ✪ read_questions
 1    import csv
 2
 3
 4  ∨ def read_questions(filename):
 5  ∨     with open(filename, 'r') as f:
 6            reader = csv.reader(f)
 7            questions = list(reader)
 8        return questions
 9
10
11  ∨ def ask_questions(questions):
12        score = 0
13  ∨     for question in questions:
14            print(question[0])
15            answer = input().strip().lower()
16  ∨         if answer == question[1].strip().lower():
17                score += 1
18        return score
19
20
21  ∨ def save_result(name, score):
22  ∨     with open('results.csv', 'a', newline='') as f:
23            writer = csv.writer(f)
24            writer.writerow([name, score])
25
26
27    filename = input("Enter the filename of the quiz questions: ")
28    questions = read_questions(filename)
29
30    name = input("Enter your name: ")
31    score = ask_questions(questions)
32
33    print("Your score is:", score)
34    save_result(name, score)
35
```

The result:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

PS D:\Programs\my python tests>  d:; cd 'd:\Programs\my python tests'; & '
:\Users\Omar Weis\AppData\Local\Programs\Python\Python311\python.exe' 'c:\U
seis\.vscode\extensions\ms-python.python-2023.8.0\pythonFiles\lib\python\de
bugpy\adapter/../..\debugpy\launcher' '59548' '--' 'D:\Omar''s Homework.py'

Enter the filename of the quiz questions: d:\csv.csv.txt
Enter your name: omar
What is the capital of France?
paris
What is the largest planet in our solar system?
Jupiter
What is the smallest country in the world?
Vatican City
What is the highest mountain in the world?
Mount Everest
What is the largest ocean in the world?
Pacific Ocean
What is the smallest planet in our solar system?
Mercury
What is the largest country in the world by area?
Russia
What is the smallest ocean in the world?
Arctic Ocean
What is the most populous country in the world?
What is the longest river in Europe?
Volga River
What is the largest island in Asia?
Greenland
What is the highest mountain in North America?
Denali (Mount McKinley)
Your score is: 20
PS D:\Programs\my python tests> █
```

تم بعون الله