Syrian Arab Republic الجمهورية العربية السورية

Lattakia - Tishreen University - اللاذقية

جامعة تشرين

Department of Communication and engineering كلية قسم هندسة الاتصالات

الهندسة الكهربائية والميكانيكية electrical
والالكترونيات 5th , Network

Programming :
Homework No1

السنة الخامسة: وظيفة1 برمجة
شبكات

Name:_____ايه مدنية_____, Number:___2317_____, Submitted To GitHub:___
https://github.com/ayamedniah/h1____

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.

```
graduated_students = ["student1","student2","student3","student4","student5"]
user_input = input("enter student name: ")
if user_input in graduated_students:
    print(user_input+" graduated")
else:
    print(user_input + " not graduated")
```

```
enter student name: student6
student6 not graduated
```

```
enter student name: student1
student1 graduated
```

تم استخدام تعليمة الشرط if لاختبار وجود اسم الطالب الذي يدخله المستخدم ضمن مصفوفة الطلاب المتخرجين و يرجع الكود اذا كان الاسم المدخل متخرجا ام لا

Tips: "List Comprehension"

```
odd_num = [x for x in range(0,1000) if (x%2==1)]
print(odd_num)
```

```
[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,
```

```
963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999]
```

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

مصفوفة تضم الاعداد الفردية المحصورة بين ال 1 و1000 باستخدام List Comprehension

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"]
l=[]
for i in L:
    if i[0] == 'P':
        l.append(i)
print("ther is "+str(len(l))+" start with p: "+str(l))
```

```
ther 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}

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

```
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}
```

باستخدام List Comprehension قمنا بتوليد المصفوفة المطلوبة العدد و مربع ه

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.

```
D_num=int(input("enter a decimal number: "))
B_num=[]
while D_num!=0:
    y= D_num % 2
    B_num.append(y)
    D_num= D_num // 2
B_num.reverse()
print("the binary number is: " +str(B_num))
```

```
enter a decimal number: 9
the binary number is: [1, 0, 0, 1]
```

```
enter a decimal number: 745
the binary number is: [1, 0, 1, 1, 1, 0, 1, 0, 0, 1]
```

تم استخدام كل من القسمة و الباق ي و عكس المصفوف ة لتطبيق الطريقة الرياضية لتحويل العدد العشري لثنائ ي

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.

```python
import json
counter=0
with open("question_file.json","r") as Question_file:
    Question_D = json.load(Question_file)
with open("answers_file.json","r") as Answers_file:
    Answers_D = json.load(Answers_file)
student_answer=[]
for key,value in Question_D.items():
    print(str(key)+str(value))
    x=str(input())
    student_answer.append(x)
for i in range(0,20):
    if student_answer[i]==Answers_D[i]:
        counter+=1
student_name=input("enter your name: ")
print("your result " + str(counter))
with open("mark_file.json","w") as s_mark:
    mark_D = json.dumps({student_name:counter})
    s_mark.write(mark_D)
```

تم استدعاء كل من ملف الأسئلة و الإجابات في البداية
ثم تم استخدام حلق ة فور لطرح الأسئلة بالترتيب مع إمكانية الكالب ادخال الإجابة الخاصة بكل سؤال و من ثم يتم حفظ إجابات الطالب و مقارنتها مع الإجابات الصحية الموجودة في ملف jsonمنفصل

و عرض العلامة التي استحقها الطالب
و من ثم يطلب من الطالب ادخال اسمه ليتم حفظه مع علامته ضمن ملف اخر منفصل

```
1['1', '2', '3']
1
2['1', '2', '3']
1
3['1', '2', '3']
2
4['1', '2', '3']
2
5['1', '2', '3']
3
6['1', '2', '3']
2
7['1', '2', '3']
1
8['1', '2', '3']
2
9['1', '2', '3']
3
10['1', '2', '3']
2
11['1', '2', '3']
3
12['1', '2', '3']
2
13['1', '2', '3']
3
14['1', '2', '3']
2
15['1', '2', '3']
3
```

```
16['1', '2', '3']
2
17['1', '2', '3']
3
18['1', '2', '3']
2
19['1', '2', '3']
2
20['1', '2', '3']
3
enter your name: aya
your result 2

Process finished with exit code 0
```

تم حفظ النتيجة كالتال ي

```
1    {"aya": 2}
```

ملف الأسئلة

```
{"1": ["1","2","3"], "2": ["1","2","3"],"3": ["1","2","3"],
"4":["1","2","3"],"5": ["1","2","3"],"6": ["1","2","3"],
"7": ["1","2","3"],"8": ["1","2","3"],"9": ["1","2","3"],
"10": ["1","2","3"],"11": ["1","2","3"],"12": ["1","2","3"],
"13": ["1","2","3"],"14":["1","2","3"],"15":["1","2","3"],
"16":["1","2","3"],"17": ["1","2","3"],"18": ["1","2","3"],
"19": ["1","2","3"],"20": ["1","2","3"]}
```


ملف الاجوبة


```
["1","2","1","1","2","1","2","1","3","1","2","3","1","1","2","1","1","1","3","2"]
```