



الجمهورية العربية السورية

اللاذقية - جامعة تشرين

كلية الهندسة الميكانيكية والكهربائية

قسم هندسة الاتصالات والالكترونيات

السنة الخامسة - وظيفة ١ - برمجة شبكات

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إشراف الدكتور  
مهند عيسى

# Solution

## Question 1:

A-

```
In [2]: 1 l1=['HTTP','HTTPS','FTP','DNS']
        2 l2=[80,443,21,53]
        3 d=dict(zip(l1,l2))
        4 print(d)
        5 |
```

{'HTTP': 80, 'HTTPS': 443, 'FTP': 21, 'DNS': 53}

قمنا بتعريف قائمتين l1 و l2 وطبقنا التابع zip فنتج الخرج كما الشكل

B-

```
In [3]: 1 x=int(input("enter a positive number to calculate the factorial number:"))
        2 r=1
        3 for y in range(1,x+1):
        4     r=r*y
        5 print(r)
```

enter any number to calculate the factorial number:5  
120

يدخل المستخدم عدد موجب ويتم حساب عاملي هذا العدد باستخدام حلقة for

C-

```
In [21]: 1 l=['Network','Bio','Programing','Physics','Music']
        2
        3 for i in range(len(l)):
        4     if l[i].startswith('B')==True:
        5         print(l[i])
```

Bio

باستخدام حلقة for تم المرور على عناصر ال list وطباعة العناصر التي تبدأ بحرف B الذي يتم كشفه بالدالة startswith

D-

```
In [28]: 1 d={x:x+1 for x in range(11)}
        2 print ('d=',d)
```

d= {0: 1, 1: 2, 2: 3, 3: 4, 4: 5, 5: 6, 6: 7, 7: 8, 8: 9, 9: 10, 10: 11}

## Question 2:

```
In [2]: 1 x=input('enter a Binary number:')
2 m=len(x)
3 n=m-1
4 y=0
5 b2d=0
6 for i in x:
7     y=int(i)*2**n
8     b2d=b2d+y
9     n-=1
10 print('the equivalent Decimal number is:',b2d)
```

enter a Binary number:110

the equivalent Decimal number is: 6

يدخل المستخدم عدد ثنائي ، ويتم تحويله لمكافئه العشري بعدة خطوات، حيث نحسب **n** عدد خانات العدد المدخل (**string**) باستخدام **len()** ، ونطبق قانون التحويل ضمن حلقة **for**

## Question 3:

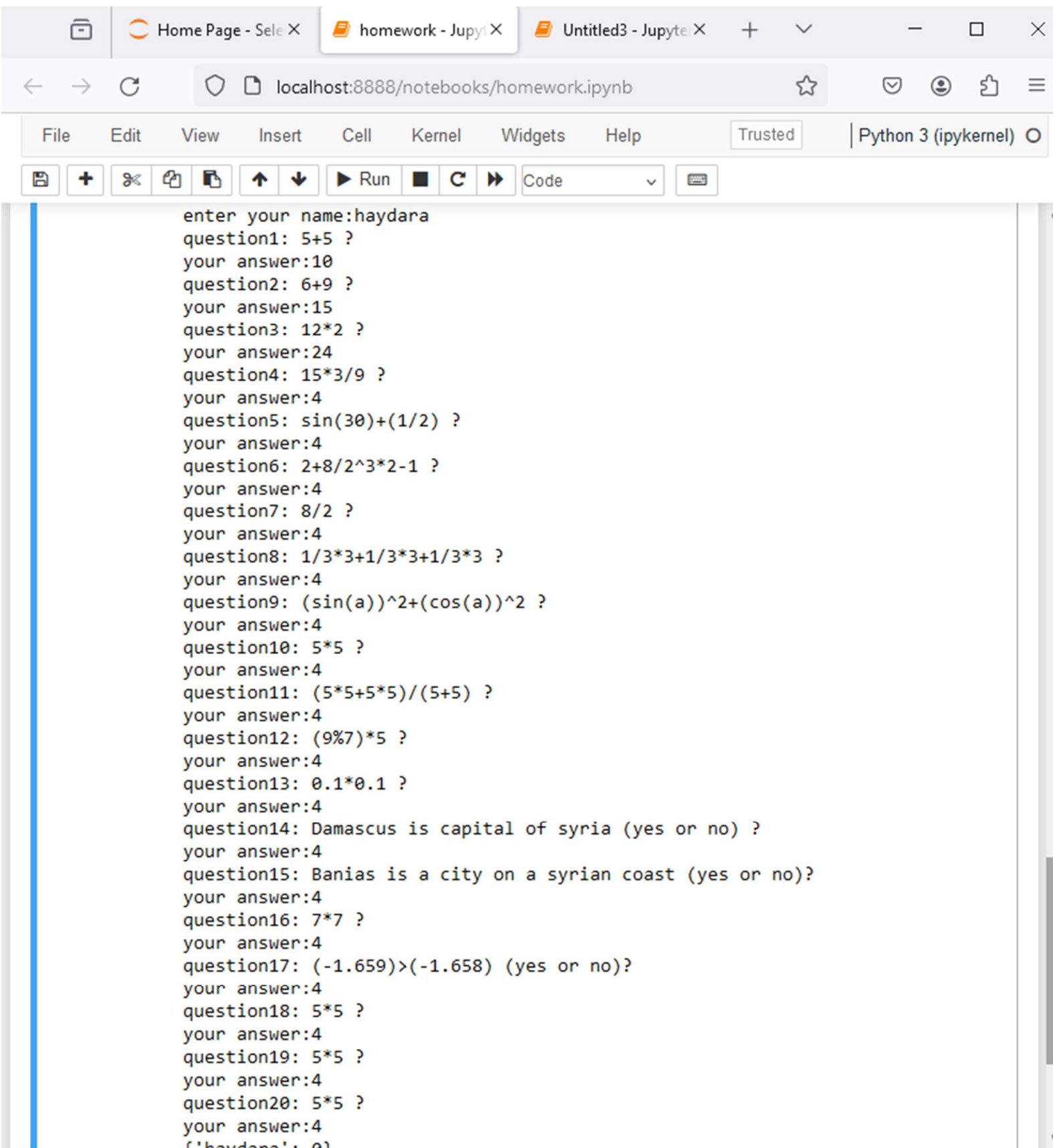
```
In [*]: 1 questions={}
2 import json
3
4 quiz=open('D:\\quiz.json','r')
5 questions=json.load(quiz)
6 quiz.close()
7
8 result=0
9
10 name=input("enter your name:")
11
12 for i in questions.keys():
13     print(i)
14     answer=input("your answer:")
15     if answer==questions[i]:
16         result+=1
17
18 your_result={name:result}
19 file2=open('D:\\result.json','w')
20 json.dump(your_result,file2)
21 file2.close()
22 print(your_result)
```

enter your name:

In [ ]:

1

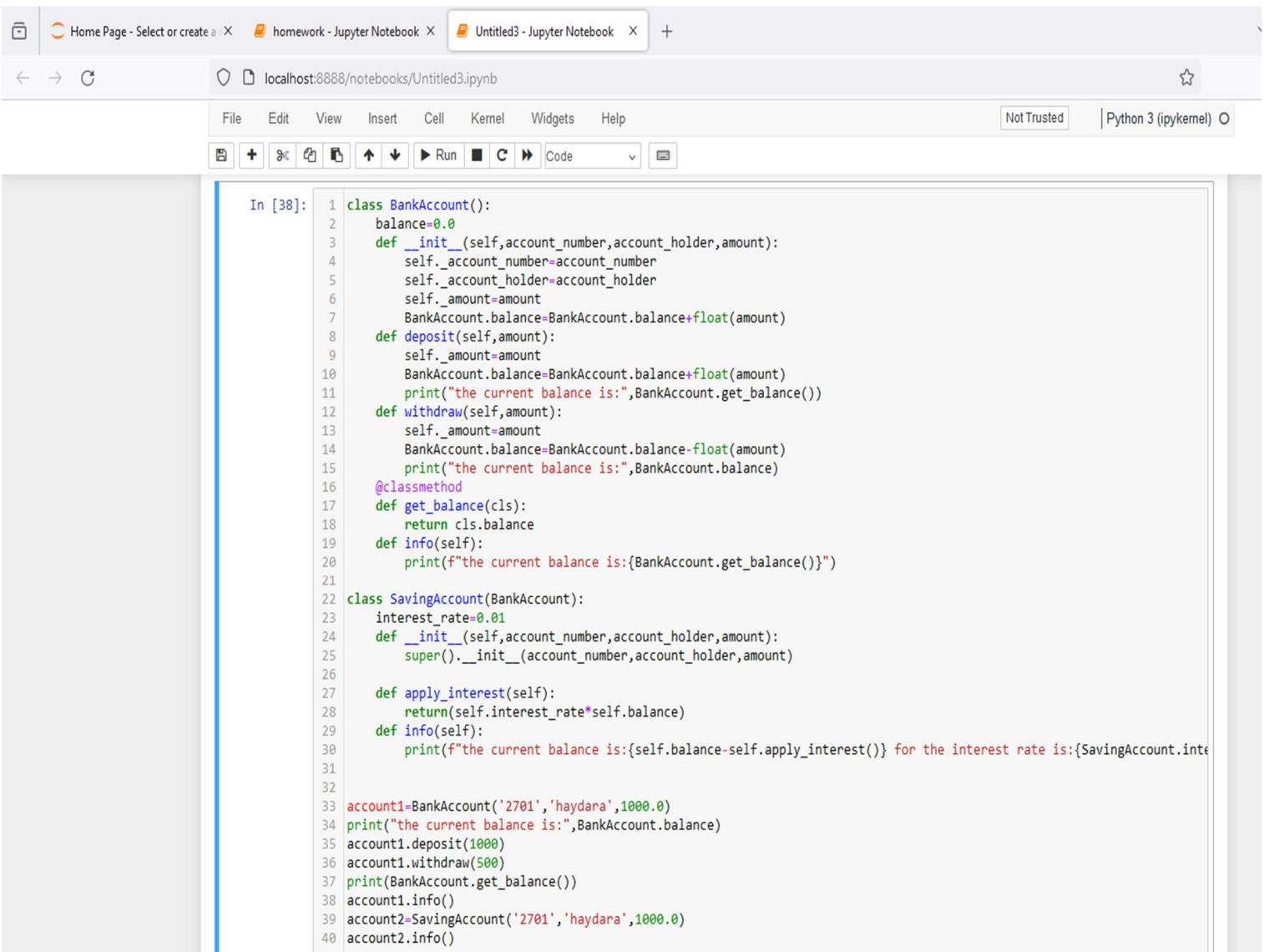
ننشئ ملف **json** في القرص **D** ونكتب فيه بقاموس مجموعة من الاسئلة والاجوبة ، نقرأ الملف ، وبحلقة **for** يظهر للمستخدم الاسئلة (**keys**) ، ويجب عنها ، ويتم مطابقة الاجابات و اظهار النتيجة في الخرج بعد حفظها بملف **json** آخر



The screenshot shows a Jupyter Notebook interface with a browser window at localhost:8888/notebooks/homework.ipynb. The notebook contains a series of questions and answers, with the user's name 'haydara' entered at the top. The questions are numbered 1 through 20, and the answers are provided for each. The interface includes a menu bar (File, Edit, View, Insert, Cell, Kernel, Widgets, Help) and a toolbar with icons for saving, running, and other notebook functions. The code is displayed in a monospace font.

```
enter your name:haydara
question1: 5+5 ?
your answer:10
question2: 6+9 ?
your answer:15
question3: 12*2 ?
your answer:24
question4: 15*3/9 ?
your answer:4
question5: sin(30)+(1/2) ?
your answer:4
question6: 2+8/2^3*2-1 ?
your answer:4
question7: 8/2 ?
your answer:4
question8: 1/3*3+1/3*3+1/3*3 ?
your answer:4
question9: (sin(a))^2+(cos(a))^2 ?
your answer:4
question10: 5*5 ?
your answer:4
question11: (5*5+5*5)/(5+5) ?
your answer:4
question12: (9%7)*5 ?
your answer:4
question13: 0.1*0.1 ?
your answer:4
question14: Damascus is capital of syria (yes or no) ?
your answer:4
question15: Banias is a city on a syrian coast (yes or no)?
your answer:4
question16: 7*7 ?
your answer:4
question17: (-1.659)>(-1.658) (yes or no)?
your answer:4
question18: 5*5 ?
your answer:4
question19: 5*5 ?
your answer:4
question20: 5*5 ?
your answer:4
{'haydara': 0}
```

## Question 4:



The screenshot shows a Jupyter Notebook with the following code:

```
In [38]: 1 class BankAccount():
2         balance=0.0
3         def __init__(self,account_number,account_holder,amount):
4             self._account_number=account_number
5             self._account_holder=account_holder
6             self._amount=amount
7             BankAccount.balance=BankAccount.balance+float(amount)
8         def deposit(self,amount):
9             self._amount=amount
10            BankAccount.balance=BankAccount.balance+float(amount)
11            print("the current balance is:",BankAccount.get_balance())
12        def withdraw(self,amount):
13            self._amount=amount
14            BankAccount.balance=BankAccount.balance-float(amount)
15            print("the current balance is:",BankAccount.balance)
16        @classmethod
17        def get_balance(cls):
18            return cls.balance
19        def info(self):
20            print(f"the current balance is:{BankAccount.get_balance()}")
21
22        class SavingAccount(BankAccount):
23            interest_rate=0.01
24            def __init__(self,account_number,account_holder,amount):
25                super().__init__(account_number,account_holder,amount)
26
27            def apply_interest(self):
28                return(self.interest_rate*self.balance)
29            def info(self):
30                print(f"the current balance is:{self.balance-self.apply_interest()} for the interest rate is:{SavingAccount.interest_rate}")
31
32        account1=BankAccount('2701','haydara',1000.0)
33        print("the current balance is:",BankAccount.balance)
34        account1.deposit(1000)
35        account1.withdraw(500)
36        print(BankAccount.get_balance())
37        account1.info()
38        account2=SavingAccount('2701','haydara',1000.0)
39        account2.info()
```

أنشأنا كلاس BankAccount وكلاس ابن SavingAccount يرث منه ، وعرفنا مجموعة توابع ، وعملنا overriding للتابع info

```
39 account2=SavingAccount('2701','haydara',1000.0)
40 account2.info()

the current balance is: 1000.0
the current balance is: 2000.0
the current balance is: 1500.0
1500.0
the current balance is:1500.0
the current balance is:2475.0 for the interest rate is:0.01
```