

Data Analytics Assignment - 3 Python

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▼ Exercises

Answer the questions or complete the tasks outlined in bold below, use the specific method described if applicable.

**** What is 7 to the power of 4?****

```
pow=7**4  
print(pow)
```

📄 2401

**** Split this string:****

```
s = "Hi there Sam!"
```

**into a list. **

```
s="Hi there Sam!"  
String_list=s.split(" ")  
print (String_list)
```

Show hidden output

```
s="Hi there dad!"  
String_list=s.split(" ")  
print (String_list)
```

```
['Hi', 'there', 'dad!']
```

**** Given the variables:****

```
planet = "Earth"
diameter = 12742
```

**** Use .format() to print the following string: ****

The diameter of Earth is 12742 kilometers.

```
planet = "Earth"
diameter = 12742
print("The diameter of {} is {} kilometers.".format(planet,diameter))
```

Show hidden output

The diameter of Earth is 12742 kilometers.

**** Given this nested list, use indexing to grab the word "hello" ****

```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
```

```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
lst[3][1][2]
```

```
['hello']
```

**** Given this nest dictionary grab the word "hello". Be prepared, this will be annoying/tricky ****

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
d['k1'][3].get('tricky')[3].get('target')[3]
```

```
'hello'
```

**** What is the main difference between a tuple and a list? ****

--> Tuple is immutable whereas List is mutable. Hence Tuple is faster than list.

--> Tuple can be represented as paranthesis() but List is represented in square brackets []

**** Create a function that grabs the email website domain from a string in the form: ****

user@domain.com

So for example, passing "[user@domain.com](#)" would return: domain.com

```
def domainGet(mail):  
    return mail.split('@')[1]
```

```
domainGet('user@domain.com')
```

Show hidden output

**** Create a basic function that returns True if the word 'dog' is contained in the input string. Don't worry about edge cases like a punctuation being attached to the word dog, but do account for capitalization. ****

```
def dogcheck(input):  
    Chk=input.lower()  
    return 'dog' in Chk.split()  
dogcheck('Is there a dog here?')
```

Show hidden output

**** Create a function that counts the number of times the word "dog" occurs in a string. Again ignore edge cases. ****

```
def dogcheck(input):  
    count=0  
    for val in input.lower().split():  
        if(val=="dog"):  
            count+=1;  
    return count  
C=dogcheck('IS there a dog here?')  
print(C)
```

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▼ Problem

**You are driving a little too fast, and a police officer stops you. Write a function to return one of 3 possible results: "No ticket", "Small ticket", or "Big Ticket". If your speed is 60 or less, the result is "No Ticket". If speed is between 61 and 80 inclusive, the result is "Small Ticket". If speed is 81 or more, the*

*result is "Big Ticket". Unless it is your birthday (encoded as a boolean value in the parameters of the function) -- on your birthday, your speed can be 5 higher in all cases. **

```
def caught_speeding(speed, is_birthday):
```

```
    if is_birthday:
        speeding = speed - 5
    else:
        speeding = speed

    if speeding > 80:
        return 'Big Ticket'
    elif speeding > 60:
        return 'Small Ticket'
    else:
        return 'No Ticket'
```

```
print(caught_speeding(65,0))
```

Show hidden output

```
def caught_speeding(speed, is_birthday):
```

```
    if is_birthday:
        speeding = speed - 5
    else:
        speeding = speed

    if speeding > 80:
        return 'Big Ticket'
    elif speeding > 60:
        return 'Small Ticket'
    else:
        return 'No Ticket'
```

```
print(caught_speeding(95,1))
```

Big Ticket

```
def caught_speeding(speed, is_birthday):
```

```
    if is_birthday:
        speeding = speed - 5
    else:
        speeding = speed
```

```

if speeding > 80:
    return 'Big Ticket'
elif speeding > 60:
    return 'Small Ticket'
else:
    return 'No Ticket'

```

```
print(caught_speeding(55,0))
```

```
No Ticket
```

Create an employee list with basic salary values(at least 5 values for 5 employees) and using a for loop retrieve each employee salary and calculate total salary expenditure.

```

employee_salary=[10000,20000,30000,40000,50000,6000]
for salary in range(0,len(employee_salary)):
    print('employee%d = %d'%(salary+1,employee_salary[salary]))
print('Total Expenditure= ',sum(employee_salary))

```

```

employee1 = 10000
employee2 = 20000
employee3 = 30000
employee4 = 40000
employee5 = 50000
employee6 = 6000
Total Expenditure= 156000

```

Create two dictionaries in Python:

First one to contain fields as Empid, Empname, Basicpay

Second dictionary to contain fields as DeptName, DeptId.

Combine both dictionaries.

```

dict1={'Empid':'ID1','Empname':'BOB','Basicpay':'40000'}
dict2={'DeptName':'production','DeptId':'Dept01'}
dict1.update(dict2)
dict1

```

```

{'Empid': 'ID1',
 'Empname': 'BOB',
 'Basicpay': '40000',
 'DeptName': 'production',
 'DeptId': 'Dept01'}

```

[Colab paid products](#) - [Cancel contracts here](#)

