DATA ANALYTICS ASSIGNMENT-3 PYTHON
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PROJECT NAME: VISUALIZING AND PREDICTING HEART DISEASES WITH AN INTERACTIVE DASHBOARD

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)
```

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

```
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.
```

```
The diameter of Earth is 12742 kilometers.
```

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

```
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')
```

```
'domain.com'
```

** 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?')
```

```
True
```

** 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)
```

```
1
```

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))
```

```
 Small 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(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
```

```
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'}
```

Create an employee list with basic salary values(at least 5 values for 5 employees) and using a for loop retreive 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.