▾ 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?**

```
print(pow(7,4))

    2401
```

** Split this string:**

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

*into a list. *

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

[→   ['Hi', 'there', 'Sam!']

** 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 ", planet ," is ", diameter ,  " kilometers.")

    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]
```

```
print(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']}]}]}
```

```
dict1 = (d.get('k1')[3])
# print(dict1)
```

```
dict2 = (dict1.get('tricky')[3])
# print (dict2)
```

```
print(dict2.get('target')[3])
```

```
hello
```

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

```
tup =(1,2,3,4,5)
print("tuple==>",tup)
lis=[1,2,3,4]
print("List==>",lis)
```

Show hidden output

** 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 domain(text):
  x = text.split("@")
  print(x[-1])
```

```
domain("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. **

```python
def findDog(text):
    if 'dog' in text.lower():
        print("True")
    else:
        print("False")


findDog("my dog name is tommy")
```

```
    True
```

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

```python
def dogcount(value):
    count = 0
    for word in value.lower().split():
        if word == 'dog' or word == 'dogs':
            count = count + 1
    print(count)


dogcount("dog is not a dog , dog is like a friend")
```

```
    3
```

▾ 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. *

```python
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'
```

```
caught_speeding(85,False)

    'Big Ticket'

caught_speeding(70,True)

    'Small Ticket'
```

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.

```
emp = [10000,25000,12000,20000,18000]
for i in emp:
  if(i>=10000 & i<15000):
    print("total salary ==>",i )
    print("total expenditure ==>" , int(i*0.6))

  if(i>15000 & i<25000):
    print("total salary ==>",i )
    print("total expenditure ==>" , int(i*0.7))
  else:
    print("total salary ==>",i )
    print("total expenditure ==>" , int(i*0.8))

     total salary ==> 10000
     total expenditure ==> 6000
     total salary ==> 10000
     total expenditure ==> 7000
     total salary ==> 25000
     total expenditure ==> 15000
     total salary ==> 25000
     total expenditure ==> 17500
     total salary ==> 12000
     total expenditure ==> 7200
     total salary ==> 12000
     total expenditure ==> 8400
     total salary ==> 20000
     total expenditure ==> 12000
     total salary ==> 20000
     total expenditure ==> 14000
     total salary ==> 18000
     total expenditure ==> 10800
     total salary ==> 18000
     total expenditure ==> 12600
```

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.

```
d1 = { "Empid":1,"Empname":"DIVYA","Basicpay": 20000}
```

```
d2 = {"deptname":"CSE" , "DEPTID": 'CSE1009'}
d3 =  {**d1 , **d2}
print(d3)
```

```
{'Empid': 1, 'Empname': 'DIVYA', 'Basicpay': 20000, 'deptname': 'CSE', 'DEPTID': 'CSI
```

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