▾ 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(7**4)
```

```
    2401
```

** Split this string:**

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

*into a list. *

```
string = "Hi there Sam!"
```

```
print(string.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 {} 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]
print(lst[3][1][2][0])
```

```
    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']}]}]]}
```

```
print(d['k1'][3]["tricky"][3]['target'][3])
```

```
    hello
```

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

```
"tuple is immutable, and list is muutable"
```

```
    'tuple is immutable, and list is muutable'
```

** 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(email):
    print("Your domain is: " + email.split('@')[-1])
```

```
email = input("Please enter your email: >")
domainGet(email)
```

```
    Please enter your email: >kdhivakar.75@gmail.com
    Your domain is: gmail.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(st):
    if 'dog' in st.lower():
        print("True")
    else:
        print("False")


st = input("Please key a string: >")
findDog(st)
```

    Please key a string: >dog
    True

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

```python
string = input("Please enter your string: ")

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

    Please enter your string: dog

```python
countdogs(string)
```

    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. ***

```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(81,True)

'Small Ticket'

caught_speeding(81,False)

'Big Ticket'

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.

```
test_dict1 = {"Gfg" : 20, "is" : 36, "best" : 100}
test_dict2 = {"Gfg2" : 26, "is2" : 19, "best2" : 70}
print("The original dictionary 1 is : " + str(test_dict1))
print("The original dictionary 2 is : " + str(test_dict2))
keys1 = list(test_dict1.keys())
vals2 = list(test_dict2.values())
res = dict()
for idx in range(len(keys1)):
    res[keys1[idx]] = vals2[idx]
print("Mapped dictionary : " + str(res))
```

```
The original dictionary 1 is : {'Gfg': 20, 'is': 36, 'best': 100}
The original dictionary 2 is : {'Gfg2': 26, 'is2': 19, 'best2': 70}
Mapped dictionary : {'Gfg': 26, 'is': 19, 'best': 70}
```