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. *

```
string="Hi there Sam!"

string.split()
```


** Given the variables:**

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

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

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

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

print(text)
```

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

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

```
hello
```

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

```
tuple=(1,2,3)
list=[1,2,3]
```

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

user@domain.com

Saved successfully!

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: user@domain.com
your domain is:  domain.com
```

```
string[5:15]
```

```
'domine.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. **

```
string=input("Enter the string \n")
def word(argument):
  if string=="dog":
    return "True"
  else:
```

```
    else:
      return "False"
word(string)
```

Show hidden output

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

```
string1=input("Enter the Strings\n")
def words(argument):
  words(strings)
print(string1.count("dog"))
```

```
Enter the Strings
dog dog
2
```

Final 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 [illegible] birthday, your speed can be 5 higher in all cases. *

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```
def caught_speeding(speed, is_birthday):

    if is_birthday=="y":
        speeding = speed - 5
    else:
        speeding = speed

    if speeding > 80:
        return 'Big Ticket'
    elif speeding > 60:
        return 'Small Ticket'
    else:
        return 'No Ticket'
speed=int(input("Enter the Speed\n"))
is_birthday=input("Is your Birthday today?(y/n)\n")
caught_speeding(speed,is_birthday)
```

Show hidden output

```
def caught_speeding(speed, is_birthday):

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

```
    if speeding > 80:
        return 'Big Ticket'
    elif speeding > 60:
        return 'Small Ticket'
    else:
        return 'No Ticket'
speed=int(input("Enter the Speed\n"))
is_birthday=input("Is your Birthday today?(y/n)\n")
caught_speeding(speed,is_birthday)
```

```
 Enter the Speed
 81
 Is your Birthday today?(y/n)
 n
 'Big Ticket'
```

Great job!

Saved successfully!

✓ 10s completed at 16:58