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?

In [ ]:
```python
import math
a = pow(7,4)
print(a)
```

2401

Split this string:

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

into a list.

In [ ]:
```python
s = "Hi there Sam!"
a = s.split()
print(list(a))
```

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

In [ ]:
```python
s = "Hi there dad!"
a = s.split()
print(list(a))
```

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

** Given the variables:**

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

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

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

In [ ]:
```python
a = "the diameter of ear
```

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

In [ ]:
```
list is "mutable" and tu
```

Out [ ]: False

** 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

In [ ]:
```
def domainGet(email):
    return email.split('
```

In [ ]:
```
domainGet('user@domain.c
```

Out [ ]: '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. **

In [ ]:
```python
def findDog(st):
    return 'dog' in st.]
```

In [ ]:
```python
findDog('Is there a dog
```

Out[ ]: True

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

In [ ]:
```python
def countDog(st):
    count = 0
    for word in st.lower
        if word == 'dog'
            count += 1
    return count
```

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(spee
    if is_birthday:
        speeding = speec
    else:
        speeding = speec

    if speeding > 80:
        return 'Big Tick
    elif speeding > 60:
        return 'Small Ti
    else:
        return 'No Ticke
```

```python
def caught_speeding(spee
    if is_birthday:
        speeding = speec
    else:
        speeding = speec

    if speeding > 80:
        return 'Big Tick
    elif speeding > 60:
        return 'Small Ti
    else:
        return 'No Ticke
caught_speeding(81,False
```

```
'Big Ticket'
```

```python
In [ ]:  def caught_speeding(spee

             if is_birthday:
                 speeding = speec
             else:
                 speeding = speec

             if speeding > 80:
                 return 'Big Tick
             elif speeding > 60:
                 return 'Small Ti
             else:
                 return 'No Ticke
         caught_speeding(81,True)
```

Out[ ]: '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.

```python
In [ ]:  employee=[10000,40000,30
         pf=2000
         da=1000
         hra=1500
         for i in employee:
             totexpense=pf+da+hra
             print(i-(totexpense))
```

5500
35500
25500
15500
30500

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.

In [ ]:
```python
def Merge(dict1, dict2):
    return(dict2.update(
dict1 = {'Empid': 10, 'E
dict2 = {'DeptName': 'HF
print(Merge(dict1, dict2
print(dict2)
None
{'DeptName': 'HR', 'Dept
```

None
{'DeptName': 'HR', 'DeptId': 4, 'Empid': 10, 'Empname': 8, 'Basicpay': 20000}

Out[ ]: {'DeptName': 'HR', 'DeptId': 4, 'Empid': 10, 'Empname': 8, 'Basicpay': 20000}