Exercises

Answer the questions or complete the tasks outlined in bold below, use the speci c method described if applicable.

** What is 7 to the power of 4?**

```
7**4
```

```
2401
```

** Split this string:**

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

**into a list. **

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

```
['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 {one} is {two}
kilometers.".format(one=planet,two=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[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']}]}]}
d['k1'][3]['tricky'][3]['target'][3]
```

```
'hello'
```

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

```
List is mutable whereas Tuple is immutable
```

** 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(email):
  return email.split('@')[-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. **

```
def findword(str):    return 'dog' in
str.lower().split(" ") findword('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 countDog(st):
  count=0   for word in st.lower().split("
"):     if word=='dog':
count=count+1   return count
countDog('This dog runs faster than
other dog')
```

```
2
```

Problem

**You are driving a little too fast, and a police o cer 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(speed, birthday):
         if  birthday:
        speeding = speed - 5     else:
        speeding = speed          if
speeding > 80:
        return 'Big Ticket'     elif
speeding > 60:
        return 'Small Ticket'
else:         return 'No
Ticket'


caught(81,True)
```

```
     'Small Ticket'
```

```
caught(81,False)
```

```
     'Big 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.

```
employee=[["Ram","Manager",100,97000,9089674532,1],["Sudha","Developer",101,96000,91896573
#the above employee lists contains employee name,employee designation,employee id,salary,c
Salary=0 for i in range(0,len(employee)):     Salary=Salary+employee[i][3] print(Salary)
Amount=int(input("Enter the total invested amount:"));
Expenditure=Amount-Salary; print(Expenditure)  475000  Enter
     the total invested amount:1000000 525000
```

Create two dictionaries in Python:

First one to contain elds as Empid, Empname, Basicpay Second dictionary to

contain elds as DeptName, DeptId.

Combine both dictionaries.

```
d1={'Empid':'1001','Empname':'Raja','Basicpay':'10000 '}
d2={'DeptName':'HR','DeptId':'9505'} d1.update(d2)
print(d1)
```

```
{'Empid': '1001', 'Empname': 'Raja', 'Basicpay': '10000', 'DeptName': 'HR', 'DeptId
```