Exercises

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

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** 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!"
s.split()
```

```
['Hi', 'there', 'sam!']
```

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

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

** 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[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? **

```
'''
Tuple = Tuple is immutable data type
      = It is represnted by ()
List = List is mutable data type
     = It is represented by []
'''
```

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(email):     return
email.split("@")[-1]
```

```
domain("user@domain.com")
```

```
'domain.com'
```

```
domain("abcd.ec@xyz.in")
```

```
'xyz.in'
```

** 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 finddog(input_string):
```

```
  lower_string=input_string.lower()
split_string=lower_string.split()   if
"dog" in split_string:
    return True
else:     return
False
```

```
finddog("There is a dog in my house")
```

```
     True
```

```
finddog("There is a cat in my house")
```

```
     False
```

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

```
def countdog(input_string):
  lower_string=input_string.lower()
split_string=lower_string.split()
count=0   for word in split_string:
if word=="dog":       count=count+1
return count
```

```
countdog("There is dog and its name is baby dog")
```

```
     2
```

```
countdog("There is a cat in my house")
```

```
     0
```

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 speedlimit(speed,birthday):
         if
birthday:
        newspeed = speed - 5
else:
        newspeed = speed
         if newspeed
> 80:
```

```
        return 'Big Ticket'
elif newspeed > 60:
        return 'Small Ticket'
else:         return 'No
Ticket'


speedlimit(100,1)

     'Big Ticket'


speedlimit(60,0)

     'No Ticket'


speedlimit(85,1)

     '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.

```
employee=[170000,230000,550000,900000,850000]
sum=0 for i in range(len(employee)):
  print("The basic salary of Employee No:",i+1,"is",employee[i])
sum=sum+employee[i]
print("Total salary expenditure is:",sum)

     The basic salary of Employee No: 1 is 170000
     The basic salary of Employee No: 2 is 230000
     The basic salary of Employee No: 3 is 550000
     The basic salary of Employee No: 4 is 900000
     The basic salary of Employee No: 5 is 850000 Total
     salary expenditure is: 2700000
```

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.

```
employee={"Empid":"19BEC046","Empname":"Geffrey","Basicpay":500000}
detail={"DeptName":"ECE","Deptid":123456789}
employee.update(detail) employee

     {'Empid': '19BEC046',
      'Empname': 'Geffrey',
      'Basicpay': 500000,
```

```
      'DeptName': 'ECE',
      'Deptid': 123456789}
""
```


0s completed at 10:02 PM