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Exercises

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Answerthequestionsorcompletethetasksoutlinedinboldbelow,usethespecificmethoddescribedifapplicable.

Whatis7tothepowerof4?

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In[17]:
```
print("7tothepowerof4is:",7**4)
```

7tothepowerof4is:2401

Splitthisstring:

Splitthisstring:

```
s="HithereSam!"
```

intoalist.

intoalist.

In[2]:
```
s="HithereSam!"l=s.split(
)print(l)
```

Giventhevariables:

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

Giventhevariables:

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

Use.format()toprintthefollowingstring:

Use.format()toprintthefollowingstring:ThediameterofEarthis12742kilometers.

In[3]:
```
print("Thediameterof{planet}is{diameter}kilometers.".format(planet="Earth",diameter=12742
))
```

ThediameterofEarthis12742kilometers.

Giventhisnestedlist,useindexingtograbtheword"hello"

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In[4]:
```
lst=[1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
str=lst[3][1][2][0]print(str)
```

Giventhisnestdictionarygrabtheword"hello".Beprepared,thiswillbeannoying/tricky

hello

Giventhisnestdictionarygrabtheword"hello".Beprepared,thiswillbeannoying/tricky

In[5]:
```
d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}print(d['k1'][3]['tricky'][3]['target'][3])
```

Whatisthemaindifferencebetweenatupleandalist?

hello

Whatisthemaindifferencebetweenatupleandalist?

Createafunctionthatgrabstheemailwebsitedomainfromastringintheform:

In[]:
```
tupleisimmutablebutlistismutable.
```

Createafunctionthatgrabstheemailwebsitedomainfromastringintheform:user@domain.com

Soforexample,passing"user@domain.com"wouldreturn:domain.com

In[6]:
```
s=input()l=0
foriins:
    ifi=="@":l=1
        continueifl==1:
        print(i,end="")
```

Createabasicfunctionthatreturns Trueiftheword'dog'iscontainedintheinputstring.Don'tworryaboutedgecaseslikeapunctuationbeingattachedtotheworddog,butdoaccountforcapitalization.

user@domain.comdomain.com

In[7]:
```
defconf(input1):
    if(input1.count('dog')):returnTrue
    else:
        returnFalses=input().lower()conf(s)
```

Createabasicfunctionthatreturns Trueiftheword'dog'iscontainedintheinputstring.Don'tworryaboutedgecaseslikeapunctuationbeingattachedtotheworddog,butdoaccountforcapitalization.

False

Dogispetanimal.

Out[7]: True

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

In[8]:
```
def conf(input1):
    return input1.count('dog')s=input().lower()
conf(s)
```

Dogispetanimal.Ilovedog Out[8]: 2

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.

In[9]:
```
def caught_speeding(speed,is_birthday):

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

    if speeding>=81:
        return 'BigTicket'elif speeding>=61 and speeding<=80:
    elif    return 'SmallTicket'
    else: return
    else    return 'NoTicket'a=int(in
put())b=i    return
nput()if(b
=='1'):
if      print(caught_speeding(a,True))
else:
else    print(caughtspeeding(a,False))
```

51
1
NoTicket

In[10]:
```
def caught_speeding(speed,is_birthday):

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

    if speeding>=81:
        return 'BigTicket'elif speeding>=61 and speeding<=80:
    elif    return 'SmallTicket'
    else: return
    else    return 'NoTicket'a=int(in
put())b=i    return
nput()if(b
=='1'):
if      print(caught_speeding(a,True))
else:
else    print(caughtspeeding(a,False))
```

65
0
SmallTicket

In[11]:
```
def caught_speeding(speed,is_birthday):

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

    if speeding>=81:
        return 'BigTicket'elif speeding>=61 and speeding<=80:
    elif    return 'SmallTicket'
    else: return
    else    return 'NoTicket'a=int(in
put())b=i    return
nput()if(b
=='1'):
if      print(caught_speeding(a,True))
else:
else    print(caughtspeeding(aFalse))
```

90
1
BigTicket

Createanemployeelistwithbasicsalaryvalues(atleast5valuesfor5employees)andusingaforloopretreiveeachemployeesalaryandcalculatetotalsalaryexpenditure.

In[13]:
```
l=[5000,7000,9000,11000,13000]
t_salary=0
for i in
for i in l:
        t_salary+=iprint("Totalsalaryexpenditure",t
 salary)
```

Totalsalaryexpenditure45000

Createtwodictionariesin Python: Firstonetocontainfieldsa

sEmpid,Empname,BasicpaySeconddictionarytocontainfie

ldsasDeptName,DeptId.Combi

In[]:

```
d1={"Empid":1,"Empname":"AravinthS","Basicpay":30000}d2={"DeptName":"IT","DeptId":1}
d={**d1,**d2}print(d)
```

```
{'Empid':1,'Empname':'AravinthS','Basicpay':30000,'DeptName':'IT','DeptId':1}
```