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Exercises

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

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

```
print(pow(7,4))
```

```
2401
```

```
print(7**4)
```

```
2401
```

** Split this string:**

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

into a list.

```
s="Hi there sam!"
words=s.split()
print(words)
```

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

```
s="Hi, there, sam!,"
words=s.split(", ")
print(words)
```

```
['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 {} is {} kilometers.".format(planet, diameter))
```

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

```
planet = "Earth"
diameter = 12742

print(f"The diameter of {planet} is {diameter} kilometers.")
```

```
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]
print(lst[3][1][2][0])
```

```
hello
```

```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
print(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']}]}]}
print(d['k1'][3]["tricky"][3]['target'][3])
```

```
hello
```

```
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? **

```
t = (1, 2, 3)
list = [1, 2, 3, 4, 5]

'''
tuple is immutable, and list is muutable'''
```

```
{"type":"string"}
```

** 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 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
```

```
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
```

** 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(st):
    if 'dog' in st.lower():
        print("True")
    else:
        print("False")

st = input("Please key a string: >")
findDog(st)

Please key a string: >dog
True
```

```
def findDog(st):
    if 'dog' in st.lower():
        print("True")
    else:
        print("False")

st = input("Please key a string: >")
findDog(st)

Please key a string: >dog
True
```

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

```
#-*- coding: utf-8 -*-
#User/johnny.lu/Download/python3/PCCE/ex9.py

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

string = input("Please enter your string: ")

def countdogs(string):
```

```
    count = 0
    for word in string.lower().split():
        if word == 'dog' or word == 'dogs':
            count = count + 1
            print(count)

countdogs(string)
```

```
Please enter your string: dog is one of the animal
1
```

```
string = input("Please enter your string: ")

def countdogs(string):
    count = 0
    for word in string.lower().split():
        if word == 'dog' or word == 'dogs':
            count = count + 1
            print(count)

countdogs(string)
```

```
Please enter your string: Despite popular belief, dogs don't only see
in black and white. In fact, they can see in blue, green, yellow and
gray too. 5. A dog's nose is always wet because they help in absorbing
certain scents. Furthermore, a dog will lick the nose to taste the
scent. 6. The urine of a dog is acidic enough to corrode even metal.
1
2
3
```

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.

```
def caught_speeding(speed, is_birthday):

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

    if speeding > 80:
        return 'Big Ticket'
    elif speeding > 60:
        return 'Small Ticket'
```

```
    else:
        return 'No Ticket'

print("Please enter the speed(km/h)(only number please): \n")
speed = int(input("> "))

print("Please enter your birthday: (in DD/MM/YYYY format)\n")
birthday = str(input("> "))

def speeding(speed, birthday):
    if birthday == '29/08/1989':
        s = speed - 5
    else:
        s = speed

    if s <= 60:
        print("You pass.")
    elif s > 61 and s <= 80:
        print("You get a small ticket")
    else:
        print("You get a big ticket.")

speeding(speed, birthday)
```

```
Please enter the speed(km/h)(only number please):

> 89
Please enter your birthday: (in DD/MM/YYYY format)

> 02/04/2002
You get a big ticket.
```

```
print("Please enter the speed(km/h)(only number please): \n")
speed = int(input("> "))

print("Please enter your birthday: (in DD/MM/YYYY format)\n")
birthday = str(input("> "))

def speeding(speed, birthday):
    if birthday == '29/08/1989':
        s = speed - 5
    else:
        s = speed

    if s <= 60:
        print("You pass.")
    elif s > 61 and s <= 80:
        print("You get a small ticket")
    else:
        print("You get a big ticket.")
```

```
speeding(speed, birthday)

Please enter the speed(km/h)(only number please):

> 65
Please enter your birthday: (in DD/MM/YYYY format)

> 02/04/2002
You get a 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 = {'Ram': 6000, 'Rohan': 7000, 'Shyam':9000, 'Jai': 7000,
'raj':8000}
mylist = [(k,v) for k,v in employee.items()]
print(f"mylist : {mylist}")

mylist : [('Ram', 6000), ('Rohan', 7000), ('Shyam', 9000), ('Jai',
7000), ('raj', 8000)]
```

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.

```
from pickle import EMPTY_DICT
# Python3 code to demonstrate working of
# Assign similar index values in Dictionary
# Using zip() + values()

# initializing dictionaries
emp_details = {201:"raj", "is" : 36, 202:"ram"}
Dept_details = {100:"CSE", "is2" : 19, 200:"CSE"}

# printing original dictionaries
print("The Employee details dictionary is : " + str(emp_details))
print("The Department details dictionary is : " + str(Dept_details))

# using zip() to perform required dict. mapping
res = dict(zip(emp_details, Dept_details.values()))

# printing result
print("Mapped dictionary : " + str(res))

The Employee details dictionary is : {201: 'raj', 'is': 36, 202:
'ram'}
The Department details dictionary  is : {100: 'CSE', 'is2': 19, 200:
```

```
'CSE'}
Mapped dictionary : {201: 'CSE', 'is': 19, 202: 'CSE'}
```