```
#!/usr/bin/env python
# coding: utf-8

# ## 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[1]:


a=7
b=4
print(pow(7,4))


# ** Split this string:**
#
#     s = "Hi there Sam!"
#
# **into a list. **

# In[14]:


s = "Hi there Sam!"
my_list = s.split()
my_list[2] = 'dad!'


# In[15]:


s = "Hi there Sam!"
my_list = s.split()
my_list[2] = 'dad!'


# ** Given the variables:**
#
#     planet = "Earth"
#     diameter = 12742
#
# ** Use .format() to print the following string: **
#
#     The diameter of Earth is 12742 kilometers.

# In[10]:


planet = "Earth"
diameter = 12742
```

```
print('The diameter of {pla} is {dia} kilometers.'.format(pla=planet,dia=diameter))


# In[13]:


planet = "Earth"
diameter = 12742

print('The diameter of {pla} is {dia} kilometers.'.format(pla=planet,dia=diameter))


# ** Given this nested list, use indexing to grab the word "hello" **

# In[12]:


lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
lst[3][1][2][0]


# In[11]:


lst[3][1][2][0]


# ** Given this nest dictionary grab the word "hello". Be prepared, this will be annoying/tricky **

# In[16]:


d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
d['k1'][3]['tricky'][3]['target'][3]


# In[17]:


d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
d['k1'][3]['tricky'][3]['target'][3]


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

# In[ ]:


List is Mutable and 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

In[19]:

```
def domainGet(strDomain):
  return strDomain.split('@')[1]
```

In[20]:

```
out = domainGet('user@domain.com')
print(out)
```

** Create a basic function that returns True if the word 'dog' is contained in the input string. Don't worry about edg
e cases like a punctuation being attached to the word dog, but do account for capitalization. **

In[23]:

```
def findDog(st):
    print(st.lower())
    return 'dog' in st.split()
```

In[24]:

```
findDog('Is there a dog here?')
if('Is there s dod here'):
    print('True')
else:
    print(false)
```

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

In[25]:

```
def countDog(st):
    st.lower().split()
    return st.count('dog')
```

In[26]:

```
countDog('This dog runs faster than the other dog dude!')
```

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 high er in all
cases. **

In[46]:


```
def caught_speeding(speed, is_birthday):

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

    if speeding > 80:
        print('Big Ticket')
    elif speeding > 60:
        print('Small Ticket')
    else:
        print('No Ticket')



caught_speeding(81,True)
caught_speeding(91,False)
```

In[ ]:

In[ ]:

Create an employee list with basic salary values(at least 5 values for 5 employees) and using a for loop retreive ea ch employee salary and calculate total salary expenditure.

In[6]:


```
emp_list=[24000,23500,23000,22500,22000]


for i in emp_list:
    print(i)
```

```
print(sum(emp_list))


# 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[1]:


def Merge(dict_1,dict_2):
    return(dict_2.update(dict_1))

dict_1={'Empid':101,'Empname':'Pradeep','Basicpay':25000}
dict_2={'DeptName':'IT','Deptid':'1A2B'}
print(Merge(dict_1,dict_2))
print(dict_2)


# In[ ]:
```