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 [2]:
```
print(7**4)
```

2401

Split this string:

s = "Hi there Sam!"

into a list.

In [3]:
```
s = "Hi there Sam!"
d=s.split(' ')
print(d)
```

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

In [4]:
```
# # method 1 -- user input
# s=input("enter the input :").split() #input-- Hi there dad! # print(s)

#method 2 -- manual input
s= "Hi there dad!"
 x=s.split()
print(x)
```

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

Given the variables:

planet = "Earth"

diameter=12742

Use .format() to print the following string:

The diameter of Earth is 12742 kilometers.

In [7]:
```
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"

In [8]:
```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
```

In [9]:
```
x=lst[3][1][2]
print(*x)
```

hello

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

In [11]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [12]:
```
print(d['k1'][3]['tricky'][3]["target"][3])
```

hello

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

Tuple:

-- Enclosed with round brackets.
-- immutable

List:

-- Enclosed with square brackets.
-- mutable

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 [15]:
```
d="user@domain.com"
def fun(d): a=""
    res= False for i
    in d:
        if(res): a+=i
        if(i=="@"): res =
            True
    return a

print(fun(d))
```

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

In [18]:
```
def word_checker(sentence,word):
    s=sentence.split(" ")
    for i in s:
        if(i==word): return
            True
    return False
sentence="My Dog name is Dora"
Target_word = "Dog"
if(word_checker(sentence,Target_word)):
    print("True")
else:
    print("False")
```

True

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

In [21]:
```
def word_checker(sentence, Target_word):
    a = sentence.split(" ")
    c = 0
    for i in range(0, len(a)):
        if (Target_word== a[i]): c = c+ 1
    return c
sentence="Dog is a pet and i love Dog"
Target_world="Dog"
print(word_checker(sentence,Target_word))
```

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 [25]:
```
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(caught_speeding(200,True))
```

Big Ticket

In [29]:
```
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(caught_speeding(71,False))
```

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.

In [35]:
```
employees = ["Dharshan","Pavi", "Abisha", "Dhayalini", "Savitha"]
salary={}
for emp in employees:
    amount=int(input(f'Enter salary for {emp}: '))
    salary[emp]=amount
print('Total salary ', sum(salary.values()))
```

Enter salary for Dharshan: 10000
Enter salary for Pavi: 10000
Enter salary for Abisha: 1200
Enter salary for Dhayalini: 3030
Enter salary for Savitha: 3333
Total salary 27563

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 [39]:
```
dict1={'Empid' : 401, 'Empname':"Dharshan","Basicpay": 10000}
dict2= {'DeptName': "Excecutive", 'Deptid': 12345}
def checker(dict1,dict2):
    result=dict1.copy()
    result.update(dict2)
    return result
result=checker(dict1,dict2)
print(z)
```

{ 'Empid': 401, 'Empname': 'Dharshan', 'Basicpay': 10000, 'DeptName': 'Excecutive', 'Deptid': 12345 }

In [ ]:
```
```