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?

```
7**4
```

```
2401
```

Split this string:

s = "Hi there Sam!"

into a list.

```
s = ["Hi","there","Sam!"]
s
```

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

+ Code + Text

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 {} kilomeers.".format(planet,diameter))
```

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

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 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

```
def getDomain(email):
  return email.split('@')[-1]
getDomain('user@domain.com')
```

```
'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 dog(st):
  return 'dog' in st.lower().split()
dog('My dog name is Dexter.')
```

```
True
```

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

```
def dogCount(st):
  count = 0
  for word in st.lower().split():
    if word == 'dog':
      count = count + 1
  return count
dogCount('Dog eat both meat and also other food items and average life of a dog is 10 to 13 y
```

```
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.

```
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'
caught_speeding(90,False)
```

```
'Big Ticket'
```

```
caught_speeding(90,True)
```

```
'Big 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.

```
import pandas as pd
import numpy as np
from google.colab import files
uploaded = files.upload()
```

Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.

Saving emp.csv to emp (2).csv

```
import io
df2 = pd.read_csv(io.BytesIO(uploaded['emp.csv'])
```

```
NumberOfWorker = int(input('enter the amount of worker'))
salary = 40000
sum = 0.00
print("Employees Salary")
for c in range(NumberOfWorker):
  salary = salary + (0*salary)
  sum = sum + salary
  print(c+1,"\t",salary)
print("Sum : ",str(sum))
```

enter the amount of worker5

Employees Salary

1 40000

2 40000

3 40000

4 40000

5 40000

Sum : 200000.0

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.

```
def Combine(d1, d2):
  result = {**d1,**d2}
  return result
d1 = {"EmpId":101,"EmpName":'Kiren',"Basicpay":300000}
d2 = {"DeptName":'IT',"DeptId":1034}
d3 = Combine(d1,d2)
print(d3)
```

```
{'EmpId': 101, 'EmpName': 'Kiren', 'Basicpay': 300000, 'DeptName': 'IT', 'DeptId': 1034}
```

Colab paid products - Cancel contracts here

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