

**Assignment 3**  
**Data Analytics**  
**Project title: Retail Store Stock Inventory Analytics**

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What is 7 to the power of 4?

In [1]:

```
7 **4
```

Output 1

2401

Split this string:

```
s = "Hi there Sam!"  
into a list.
```

Input

```
s = 'Hi there Sam!'  
s.split()
```

Output

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

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))
```

Output

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]  
In [14]:  
lst[3][1][2][0]
```

Output

'hello'

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

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
In [22]:
d['k1'][3]['tricky'][3]['target'][3]
```

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

Output  
'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):
    return 'dog' in st.lower().split()
findDog('Is there a dog here?')
```

Output  
True

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

```
def countDog(st):
    count = 0
    for word in st.lower().split():
        if word == 'dog':
            count += 1
    return count
countDog('This dog runs faster than the other dog dude!')
```

Output  
2

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(81,True)
```

Output

'Small Ticket'

```
caught_speeding(81,False)
```

'Big Ticket'

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

```
def weeklyPaid(hours_worked, wage):
    if hours_worked > 40:
        return 40 * wage + (hours_worked - 40) * wage * 1.5
    else:
        return hours_worked * wage
```

```
hours_worked = 50
```

```
wage = 100
```

```
pay = weeklyPaid(hours_worked, wage)
```

```
print(f"Total gross pay: Rs.{pay:.2f} ")
```