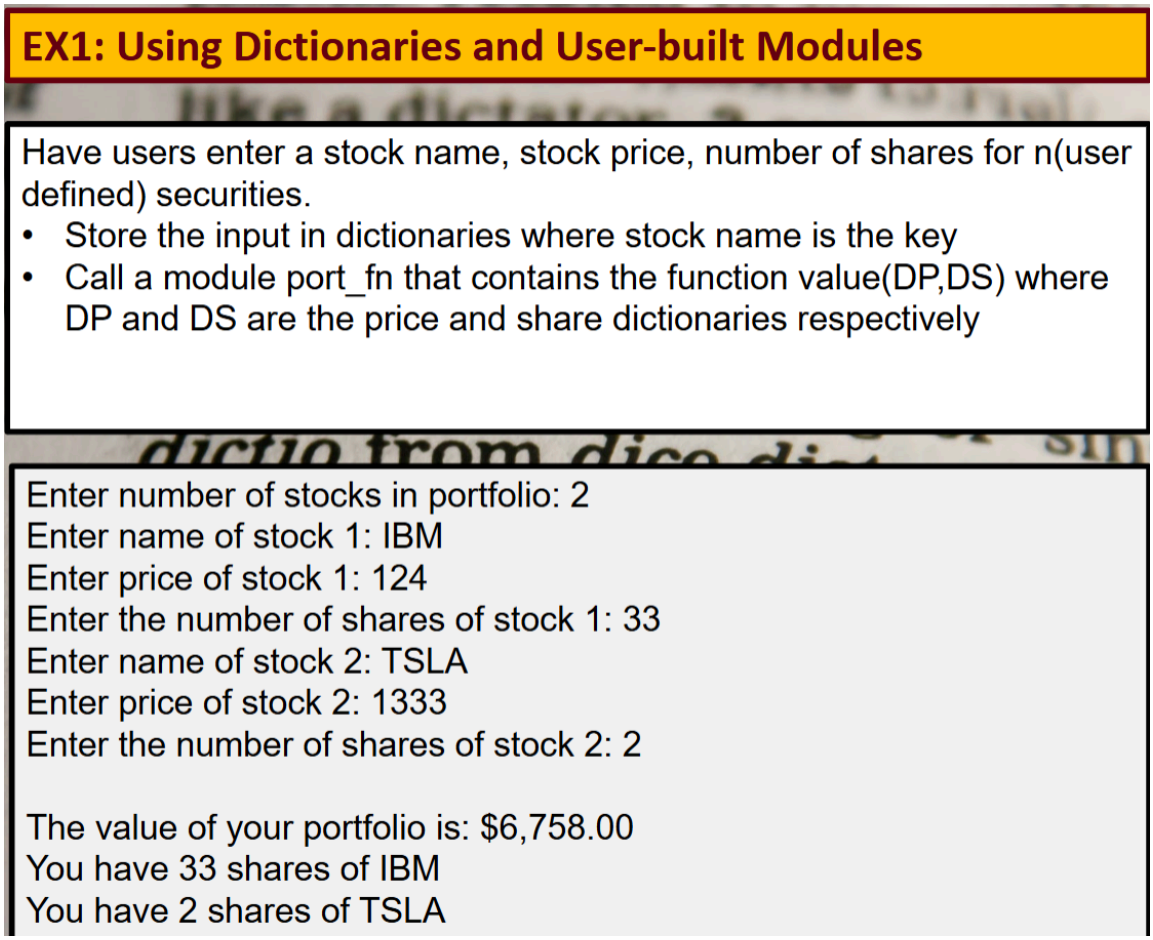
Class 9 - August 5th Notes



In [11]:
```
###Ex1
###Hint: look at the previous loop for guidance
import port_fn as pf_val

def main():
    num = int(input('Enter number of stocks in portfolio: '))
    DP={}
    DS={}
    for i in range(num):
        name=input("Enter name of stock {}: ".format(i+1))
        price=int(input("Enter price of stock {}: ".format(i+1)))
        shares=int(input("Enter the number of shares of stock {}: ".format(i+1)))
        DP[name]=price
        DS[name]=shares

    print(DP)
    print(DS)

    val = pf_val.value(DP,DS)
    print('The expected value of your portfolio is: ${:,.2f}'.format(val))
```

```
    for key in DS:
        print("You have {} shares of {}".format(DS[key], key))

main()
```

```
{'IBM': 124, 'TSLA': 1333}
{'IBM': 33, 'TSLA': 2}
The expected value of your portfolio is: $6,758.00
You have 33 shares of IBM
You have 2 shares of TSLA
```

EX2: Using Sets and Dictionaries - 50 U.S. State Quarters

Objective: John buys a latte at his local coffee shop. He receives 38 cents in change every day, and gets one U.S. state quarter, which he collects.
Simulate his collection after n (user input) days.

Show each unique quarter in the collection.

Show what quarters he is missing from his collection

(define key as a number corresponding with the states ordered admission to the union.)

```
Enter number of trials: 50
You collected these coins:
DE NJ GA CT MA VA NY RI VT KY OH LA IL ME MO MI IA WI CA MN OR NV NE ND
SD MT WA WY NM AK HI

You are missing the following coins in your collection:
PA MD SC NH NC TN IN MS AL AR FL TX KS WV CO ID UT OK AZ
```

In [45]:

```
###EX2 Shell
import random as rd
###50 state quarters
q=50
###how many trials to get all 50 states
n=int(input("Enter number of trials: "))
coins=[]
master=[]

#dictionary of order/states

states = {1:'DE',2:'PA',3:'NJ',4:'GA',5:'CT',6:'MA',7:'MD',8:'SC',9:'NH',10:'VA',11

###creat a master list of each coin from the dictionary using loop

for key_m in states:
    master.append(states[key_m])

print(master)
# print(len(master))

###simulate n trials of coin draws (number 1-50) write to coins list with loop
```

```
for i in range(n):
    rand = rd.randint(1,50)
    coins.append(states[rand])

# print(coins)
# print(len(coins))


###convert the coins/master lists to sets
coins_set=set(coins)
master_set=set(master)

# ###create a set of the missing coins called "missing"
missing = master_set-coins_set

#write a loop to interate set and retrieve key value from list
# for i in range(len(coins)):
print("You collected these coins: {}".format(coins))



#write a loop to interate set and retrieve key value from list
# for i in range(len(missing)):
print("\n\nYou are missing the following coins in your collection: {}".format(missi
print(len(missing))
```

```
['DE', 'PA', 'NJ', 'GA', 'CT', 'MA', 'MD', 'SC', 'NH', 'VA', 'NY', 'NC', 'RI', 'VT',
'KY', 'TN', 'OH', 'LA', 'IN', 'MS', 'IL', 'AL', 'ME', 'MO', 'AR', 'MI', 'FL', 'TX',
'IA', 'WI', 'CA', 'MN', 'OR', 'KS', 'WV', 'NV', 'NE', 'CO', 'ND', 'SD', 'MT', 'WA',
'ID', 'WY', 'UT', 'OK', 'NM', 'AZ', 'AK', 'HI']
You collected these coins: ['MA']


You are missing the following coins in your collection: {'HI', 'NE', 'VA', 'NJ', 'M
N', 'TN', 'OH', 'ID', 'AK', 'NM', 'NH', 'DE', 'MD', 'WV', 'SC', 'FL', 'AR', 'OR', 'K
S', 'MS', 'ME', 'MO', 'TX', 'MI', 'AL', 'SD', 'CT', 'LA', 'NC', 'NV', 'GA', 'RI', 'I
L', 'IA', 'UT', 'OK', 'VT', 'PA', 'WA', 'AZ', 'IN', 'MT', 'ND', 'KY', 'CA', 'NY', 'C
O', 'WI', 'WY'}
49
```

Practise

In [5]:
```
#Create a dictionary with {key1:value1,key2:value2...keyn:valuen}
MarketCap = {'FB':529.622,'AMZN':881.897,'DIS':242.569}

#Key FB calls and displays 529.622. note we don't call with an index value, rather
print(MarketCap['FB'])

#Add a new element to dictionary
MarketCap['FB']=122.34
print(MarketCap)
```

```
529.622
{'FB': 122.34, 'AMZN': 881.897, 'DIS': 242.569}
```

In [1]:
```
#Loop to interate over item
MC={'FB':529.622,'AMZN':881.897,'DIS':242.569}

for key in MC:
    print(key,MC[key])
```

```
FB 529.622
AMZN 881.897
DIS 242.569
```

In [3]:
```
###Can also use loop to populate key/value dictionary elements
###Use for Ex 1###
DC={}

for n in range(3):
    name=input('Enter Key ')
    val=input('Enter Value ')
    DC[name]=val

for key in DC:
    print(key,DC[key])

del DC['b2']
print(DC)
```

```
a 5
b2 2
{'a': '5'}
```

In [4]:
```
#Create our own package, a function we can import
##Download from Class 9
##Can create new notebook save as and add.py or write save in VisualStudio or Anoca
import power as p
def main():
    num1= 5
    num2= 3
    print(p.power(num1,num2))
main()
```

```
125
```

In [5]:
```
import Practice
def main():
    num1= float(input("Enter the number of shares: "))
    num2= float(input("Enter the price of the stock: "))
    print('\nThe value of your portfolio is: ',end="")
    print('$',format(Practice.pract(num1,num2),',.2f'),sep='')
main()
```

```
The value of your portfolio is: $20.00
```