**Bubble Sort Exercise**

Modify [bubble\_sort function](https://github.com/codebasics/data-structures-algorithms-python/blob/master/algorithms/2_BubbleSort/bubble_sort.py) such that it can sort following list of transactions happening in an electronic store,

elements = [

{ 'name': 'mona', 'transaction\_amount': 1000, 'device': 'iphone-10'},

{ 'name': 'dhaval', 'transaction\_amount': 400, 'device': 'google pixel'},

{ 'name': 'kathy', 'transaction\_amount': 200, 'device': 'vivo'},

{ 'name': 'aamir', 'transaction\_amount': 800, 'device': 'iphone-8'},

]

bubble\_sort function should take key from a transaction record and sort the list as per that key. For example,

bubble\_sort(elements, key='transaction\_amount')

This will sort elements by transaction\_amount and your sorted list will look like,

elements = [

{ 'name': 'kathy', 'transaction\_amount': 200, 'device': 'vivo'},

{ 'name': 'dhaval', 'transaction\_amount': 400, 'device': 'google pixel'},

{ 'name': 'aamir', 'transaction\_amount': 800, 'device': 'iphone-8'},

{ 'name': 'mona', 'transaction\_amount': 1000, 'device': 'iphone-10'},

]

But if you call it like this,

bubble\_sort(elements, key='name')

output will be,

elements = [

{ 'name': 'aamir', 'transaction\_amount': 800, 'device': 'iphone-8'},

{ 'name': 'dhaval', 'transaction\_amount': 400, 'device': 'google pixel'},

{ 'name': 'kathy', 'transaction\_amount': 200, 'device': 'vivo'},

{ 'name': 'mona', 'transaction\_amount': 1000, 'device': 'iphone-10'},

]

ANSWER :

def bubble\_sort(elements,key=None):

    size = len(elements)

    for i in range(size-1):

        for j in range(size-1):

            a = elements[j][key]

            b = elements[j+1][key]

            if a>b:

                temp = elements[j]

                elements[j]=elements[j+1]

                elements[j+1]=temp

elements = [

        { 'name': 'mona',   'transaction\_amount': 1000, 'device': 'iphone-10'},

        { 'name': 'dhaval', 'transaction\_amount': 400,  'device': 'google pixel'},

        { 'name': 'kathy',  'transaction\_amount': 200,  'device': 'vivo'},

        { 'name': 'aamir',  'transaction\_amount': 800,  'device': 'iphone-8'},

    ]

bubble\_sort(elements,key="transaction\_amount")

print("Sorted elements is = ",elements)