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In [13]: """
Que 1-Q1. Create a function which will take a list as an argument and return the product of all the numbers
after creating a flat list.
Use the below-given list as an argument for your function.
list1 = [1,2,3,4, [44,55,66, True], False, (34,56,78,89,34), {1,2,3,3,2,1}, {1:34, "key2": [55, 67, 78, 89], 4: (45,
22, 61, 34)}, [56, 'data science'], 'Machine Learning']
Note: you must extract numeric keys and values of the dictionary also.
"""

list1 = [1,2,3,4, [44,55,66, True], False, (34,56,78,89,34), {1,2,3,3,2,1}, {1:34, "key2": [55, 67, 78, 89], 4: (45,
22, 61, 34)}, [56, 'data science'], 'Machine Learning']

def flat_list(list1):
    flate=[]
    for i in list1:
        if type(i)==int or type(i)==float:
            flate.append(i)
        elif type(i)==list or type(i)==set or type(i)==tuple:
            for j in i:
                if type(j)==int or type(j)==float:
                    flate.append(j)
        elif type(i)==dict:
            for k in i.items():
                if type(k[0])==int or type(k[0])==float:
                    flate.append(k[0])
                else:
                    for l in k[1]:
                        flate.append(l)
    return flate
a=flat_list(list1)
print(a)

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[1, 2, 3, 4, 44, 55, 66, 34, 56, 78, 89, 34, 1, 2, 3, 1, 55, 67, 78, 89, 4, 56]
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In [23]: """Q2. Write a python program for encrypting a message sent to you by your friend. The logic of encryption
should be such that, for a the output should be z. For b, the output should be y. For c, the output should
be x respectively. Also, the whitespace should be replaced with a dollar sign. Keep the punctuation
marks unchanged."""

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def encrypt(x):
    enc_msg=""
    alph=['a','b','c','d','e','f','g','h','i','j','k','l','m','n','o','p','q',
          'r','s','t','u','v','w','x','y','z']
    rev_alph=alph[::-1]
    for i in x:
        if i==' ':
            enc_msg+='$'
        elif i=="." or i=="!" or i=="," or i=="?":
            enc_msg+=i
        else:
            n=alph.index(i.lower())
            enc_msg+=rev_alph[n]
    return enc_msg
a="I Want to become Data Scientist"
print(encrypt(a))

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r$dzm$gl$yvxlnv$wzgz$hxrvmgrhg
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In [ ]:
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