PS2\_Q4

L = eval(input())

for i in L:

    ind = L.index(i)

    for k,v in i.items():

        if type(k) == int and type(v) == str:

            L.remove(i)

            t = {v:k}

            L.insert(ind,t)

L\_keys = []

L\_values = []

for i in L:

    for k,v in i.items():

        L\_keys.append(k)

        L\_values.append(v)

keys\_rep = []

values\_rep = []

for i in L\_keys:

    if L\_keys.count(i)>1:

        keys\_rep.append(i)

for i in L\_values:

    if L\_values.count(i)>1:

        values\_rep.append(i)

rep\_keys = set(keys\_rep)

rep\_values = set(values\_rep)

for i in rep\_keys:

    ind = keys\_rep.index(i)

    dv = ''

    for j in L.copy():

        for k,v in j.items():

            if k == i and L.index(j) != ind:

                x = L.pop(L.index(j))

                for v1 in x.values():

                    dv += str(v1)

    for j in L.copy():

        for k,v in j.items():

            if k == i and L.index(j) == ind:

                y = L.pop(ind)

                for k1,v1 in y.items():

                    y[k1] = str(v1) + str(dv)

                L.insert(ind,y)

for i in rep\_values:

    ind = values\_rep.index(i)

    dk = ''

    for j in L.copy():

        for k,v in j.items():

            if v == i and L.index(j) != ind:

                x = L.pop(L.index(j))

                for k1 in x.keys():

                    dk += k1

    for j in L.copy():

        for k,v in j.items():

            if v == i and L.index(j) == ind:

                y = L.pop(ind)

                for k1,v1 in y.items():

                    t = {k1 + dk:int(v1\*\*(1/3))}

                    L.insert(ind,t)

print(L)