*'''*

*2048核心算法*

*'''*

game\_map = [

[2,0,0,2],

[4,4,2,2],

[2,4,0,4],

[0,0,2,2]

]

*#1.从后往前删除零元素 先删除在补零*

**def** zero\_delete(list\_target):

**for** item **in** range(len(list\_target)-1,-1,-1):

**if** list\_target[item] == 0:

**del** list\_target[item]

list\_target.append(0)

*# list\_1 = [2,0,0,2]*

*# zero\_delete(list\_1)*

*# print(list\_1)*

*#2.合并,相邻两个元素相等,相加,在补0*

**def** merge(list\_target):

zero\_delete(list\_target)

**for** item **in** range(len(list\_target)-1):

**if** list\_target[item] == list\_target[item+1]:

list\_target[item] += list\_target[item + 1]

**del** list\_target[item + 1]

list\_target.append(0)

*# merge(list\_1)*

*# print(list\_1)*

*#3.左移 将每一列元素取出 进行合并*

**def** move\_left():

**for** line **in** game\_map:

merge(line)

*# move\_left()*

*# print(game\_map)*

*#4.右移* *,将每一列元素取出,反转* *,左移,反转*

**def** move\_right():

**for** line **in** game\_map:

line.reverse()

merge(line)

line.reverse()

*# move\_right()#[[0, 0, 0, 4], [0, 0, 8, 4], [0, 0, 2, 8], [0, 0, 0, 4]]*

*# print(game\_map)*

*# def move\_right():*

*# for line in game\_map:*

*# # global list\_target*

*# list\_target = line[::-1]*

*# merge(list\_target)*

*# line[::-1] = list\_target*

move\_right()*#[[0, 0, 0, 4], [0, 0, 8, 4], [0, 0, 2, 8], [0, 0, 0, 4]]*

print(game\_map)

*#5.上移,先将矩阵行列互换,再左移,再矩阵行列互换*

*#矩阵转换:*

*# def square\_matrix():*

*# list\_1 = []*

*# for i in range(len(game\_map[0])):*

*# list\_1.append([])*

*# for j in range(len(game\_map)):*

*# list\_1[i].append(game\_map[j][i])*

*# return list\_1*

**def** square\_matrix():

**for** r **in** range(1,len(game\_map)):

**for** c **in** range(r,len(game\_map)):

game\_map[c][r-1],game\_map[r-1][c] = game\_map[r-1][c], game\_map[c][r-1]

*# square\_matrix()*

*# print(game\_map)*

*#上移*

**def** move\_up():

square\_matrix()

move\_left()

square\_matrix()

*# move\_up()#[[2, 8, 4, 4], [4, 0, 0, 4], [2, 0, 0, 2], [0, 0, 0, 0]]*

*# print(game\_map)*

*# 下移,先将矩阵行列互换,再右移,再矩阵行列互换*

**def** move\_down():

square\_matrix()

move\_right()

square\_matrix()

*# move\_up()#[[2, 8, 4, 4], [4, 0, 0, 4], [2, 0, 0, 2], [0, 0, 0, 0]]*

*# print(game\_map)*

*# move\_down()#[[0, 0, 0, 0], [2, 0, 0, 4], [4, 0, 0, 4], [2, 8, 4, 2]]*

*# print(game\_map)*