

Maaaaaze

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解题思路

关于树的直径（最长路径）的证明可以看[这里](#)找迷宫中任意两点最大路径 最后答案是4056 把html处理一下，然后任意取一个点作为起点，扔到dfs里跑最长路径，等跑不动的时候拿当前最长路径的重点作为起点再扔进去跑，来回几次就得到4056了

```
1 # 处理html部分
2 import sys
3 sys.setrecursionlimit(100000)
4 file = open("sctfmaze.txt")
5 maze = [[0 for j in range(0, 100)] for i in range(0, 100)]
6 vis = [[0 for j in range(0, 100)] for i in range(0, 100)]
7 class Node:
8     t = 0
9     r = 0
10    b = 0
11    l = 0
12 #print maze
13 for line in file:
14     a = line[:-1].split(" ")
15     #print a
16     n = Node()
17     for i in range(2,len(a)):
18         #print a[i],
19         if a[i] == '0' :
20             n.t = 1
21         if a[i] == '1' :
22             n.r = 1
23         if a[i] == '2' :
24             n.b = 1
25         if a[i] == '3' :
26             n.l = 1
27         #print a[i],
28     #print
29     maze[int(a[0])][int(a[1])] = n
30     #print a[0],a[1],maze[int(a[0])][int(a[1])].b
31 #exit()
32 def check(i,j):
33     if i>=100 or i<0 or j>=100 or j<0:
34         return False
35     if vis[i][j] == 1:
36         return False
37     return True
38 def printmap():
39     global vis
40     for i in range(0,100):
41         for j in range(0,100):
42             if vis[i][j] == 1:
43                 print "%2d%2d" % (i,j)
44                 print "    "
45 maxx = 0
46 print maxx,i,j
47 def dfs(i,j,n):
48     global maxx
49     global vis
50     global maze
51     n += 1
52     #print maxx,i,j,n,maze[i][j].t,maze[i][j].r,maze[i][j].b,maze[i][j].l
53     if n>maxx:
54         print n,i,j
55         #print n,i,j,maze[i][j].t,maze[i][j].r,maze[i][j].b,maze[i][j].l
56         maxx = n
57     if check(i-1,j) and maze[i][j].t == 0:
58         vis[i-1][j] = 1
59         dfs(i-1,j,n)
60         vis[i-1][j] = 0
```

```
61 if check(i,j+1) and maze[i][j].r == 0:
62     vis[i][j+1] = 1
63     dfs(i,j+1,n)
64     vis[i][j+1] = 0
65 if check(i+1,j) and maze[i][j].b == 0:
66     vis[i+1][j] = 1
67     dfs(i+1,j,n)
68     vis[i+1][j] = 0
69 if check(i,j-1) and maze[i][j].l == 0:
70     vis[i][j-1] = 1
71     dfs(i,j-1,n)
72     vis[i][j-1] = 0
73 vis[70][22] = 1
74 dfs(70,22,0)
75 exit()
76 for i in range(0,100):
77     for j in range(0,100):
78         #print i,j
79         vis[i][j] = 1
80         dfs(i,j,0)
81         vis[i][j] = 0
```

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