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PROG: jigsaw

LANG: C++

ID: hayk.sa1

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#include <stdio.h>

bool f;

int n, m;

bool t[110];

int num[110];

char s[110][10];

int rot[12][12], p[12][12];

void go(int i, int j)

{

if (j-1 == m && s[p[i][j-1]][rot[i][j-1]+2] != '0' || i == n && s[p[i][j-1]][rot[i][j-1]+3] != '0')

return;

if (j > m)

{

i++;

j = 1;

}

if (i > n)

{

f = 1;

return;

}

int l, r;

for (l = 1; l <= n\*m; l++)

if (!t[l])

{

for (r = 0; r < 4; r++)

if (s[l][r] == s[p[i][j-1]][rot[i][j-1]+2] && s[l][r+1] == s[p[i-1][j]][rot[i-1][j]+3])

{

t[l] = 1;

p[i][j] = l;

rot[i][j] = r;

go(i, j+1);

if (f)

return;

t[l] = 0;

}

}

}

int main()

{

freopen("jigsaw.in", "r", stdin);

freopen("jigsaw.out", "w", stdout);

int i, j;

scanf("%d%d", &n, &m);

s[0][0] = s[0][1] = s[0][2] = s[0][3] = '0';

s[0][4] = 0;

for (i = 1; i <= n\*m; i++)

{

scanf("%d%s%s%s%s", num+i, s[i], s[i]+1, s[i]+2, s[i]+3);

s[i][4] = s[i][0];

s[i][5] = s[i][1];

s[i][6] = s[i][2];

s[i][7] = 0;

}

for (i = 0; i <= m; i++)

rot[0][i] = p[0][i] = 0;

for (i = 0; i <= n; i++)

rot[i][0] = p[i][0] = 0;

go(1, 1);

for (i = 1; i <= n; i++)

for (j = 1; j <= m; j++)

printf("%d %c %c %c %c\n", num[p[i][j]], s[p[i][j]][rot[i][j]+1], s[p[i][j]][rot[i][j]+2], s[p[i][j]][rot[i][j]+3], s[p[i][j]][rot[i][j]]);

return 0;

}