

Submission

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grid.cpp	2106 bytes	8af9bcd760a938f3b2b29cbd50ec44cfc23757fa	download

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grid.cpp

```

1 #include <bits/stdc++.h>
2 int inf = 2 << 28;
3 class Solution {
4 public:
5     bool inrange(int n, int m, int x, int y) {
6         if(x < 0) {
7             return false;
8         }
9         if(y < 0) {
10            return false;
11        }
12        if(x >= n) {
13            return false;
14        }
15        if(y >= m) {
16            return false;
17        }
18        return true;
19    }
20 };
21 int main(){
22     std::ios_base::sync_with_stdio(false);
23     std::cin.tie(NULL);
24     Solution S1= Solution();
25     int n,m;
26     cin >> n >> m;
27
28     std::vector<std::vector<int>>> v;

```

```
29     v.resize(n, std::vector<int>(m));
30
31     for(int i = 0; i < n; i++) {
32         for(int j = 0; j < m; j++) {
33             char c;
34             std::cin >> c;
35             v[i][j] = c - '0';
36         }
37     }
38
39     std::vector<std::vector<int>> dist;
40     dist.resize(n, std::vector<int>(m, inf));
41
42     std::queue<std::pair<int, int>> q;
43     dist[0][0] = 0;
44     q.push({0,0});
45
46     while(!q.empty()) {
47         int x = q.front().first;
48         int y = q.front().second;
49         q.pop();
50
51         int range = v[x][y];
52         if(S1.inrange(n, m, x-range, y)) {
53             if(dist[x][y] + 1 < dist[x-range][y]) {
54                 dist[x-range][y] = dist[x][y] + 1;
55                 q.push({x-range,y});
56             }
57         }
58         if(S1.inrange(n, m, x+range, y)) {
59             if(dist[x][y] + 1 < dist[x+range][y]) {
60                 dist[x+range][y] = dist[x][y] + 1;
61                 q.push({x+range,y});
62             }
63         }
64         if(S1.inrange(n, m, x, y-range)) {
65             if(dist[x][y] + 1 < dist[x][y-range]) {
66                 dist[x][y-range] = dist[x][y] + 1;
67                 q.push({x,y-range});
68             }
69         }
70         if(S1.inrange(n, m, x, y+range)) {
71             if(dist[x][y] + 1 < dist[x][y+range]) {
72                 dist[x][y+range] = dist[x][y] + 1;
73                 q.push({x,y+range});
74             }
75         }
76     }
77
78     int d = dist[n-1][m-1];
79     if(d == inf) {
80         std::cout << "-1" << std::endl;
81     }
82     else {
83         std::cout << d << std::endl;
84     }
85     return 0;
86 }
```