

E:\maze.c

```
1  #include <stdio.h>
2  #include <stdbool.h>
3  #include <string.h>
4
5  const char direction[] = "DLRU";
6  const int dr[] = {1, 0, 0, -1};
7  const int dc[] = {0, -1, 1, 0};
8
9  const int n = 4; // Define n as the size of the maze
10
11 bool isValid(int r, int c, int maze[n][n]) {
12     return r >= 0 && c >= 0 && r < n && c < n && maze[r];
13 }
14
15 void solve(int r, int c, int maze[n][n], char currentPath[], char ans[][100], int* count) {
16     if (r == n - 1 && c == n - 1) {
17         strcpy(ans[*count], currentPath);
18         (*count)++;
19         return;
20     }
21
22     maze[r] = 0;
23
24     for (int i = 0; i < 4; i++) {
25         int nextr = r + dr[i];
26         int nextc = c + dc[i];
27
28         if (isValid(nextr, nextc, maze)) {
29             currentPath[strlen(currentPath)] = direction[i];
30             solve(nextr, nextc, maze, currentPath, ans, count);
31             currentPath[strlen(currentPath) - 1] = '\\0';
32         }
33     }
34
35     maze[r] = 1;
36 }
37
38 void findPath(int maze[n][n]) {
39     if (maze[0][0] == 1) {
40         char currentPath[100];
41         char ans[100][100];
42         int count = 0;
43         currentPath[0] = '\\0';
44         solve(0, 0, maze, currentPath, ans, &count);
45
46         if (count == 0)
47             printf("-1");
48         else {
49             for (int i = 0; i < count; i++) {
50                 printf("%s ", ans[i]);
51             }
52         }
53     }
54 }
```

```
55 |
56 | int main() {
57 |     int maze[4][4] = { {1, 0, 0, 0},
58 |                       {1, 1, 0, 1},
59 |                       {1, 1, 0, 0},
60 |                       {0, 1, 1, 1} };
61 |
62 |     findPath(maze);
63 |
64 |     return 0;
65 | }
66 |
```