2100032489_G SURYA SIVA TEJA

LEETCODE

Time Submitted	Question	Status	Runtime	Language
4 days, 4 hours ago	Water and Jug Problem	Accepted	0 ms	c
4 days, 4 hours ago	Water and Jug Problem	Wrong Answer	N/A	java
4 days, 4 hours ago	Coin Change	Accepted	24 ms	java
4 days, 4 hours ago	Coin Change	Wrong Answer	N/A	java
4 days, 4 hours ago	Sum Root to Leaf Numbers	Accepted	0 ms	java
4 days, 4 hours ago	Path Sum	Accepted	0 ms	java
4 days, 4 hours ago	Path Sum	Accepted	1 ms	java
4 days, 4 hours ago	Path Sum	Accepted	1 ms	java
4 days, 5 hours ago	Maximum Depth of Binary Tree	Accepted	44 ms	python
4 days, 5 hours ago	Maximum Depth of Binary Tree	Accepted	55 ms	python
4 days, 5 hours ago	Maximum Depth of Binary Tree	Runtime Error	N/A	python3

Water and jug problem:

```
class Solution(object):
    def maxDepth(self, root):
        return 1 + max(self.maxDepth(root.left), self.maxDepth(root.right)) if root else 0
```

coin change:

```
class Solution {
    public int coinChange(int[] coins, int amount) {

        int max = amount + 1;
        int[] dp = new int[amount + 1];

        Arrays.fill(dp, max);

        dp[0] = 0;

        for (int i = 1; i <= amount ; i++) {
            for (int j = 0; j < coins.length; j++) {
                if (coins[j] <= i) {
                    dp[i] = Math.min(dp[i], 1 + dp[i - coins[j]]);
                }
```

```
        }
    }

    return dp[amount] > amount ? -1 : dp[amount];
  }
}
```

Sum root to leaf numbers:

```
class Solution {
  private int res;

  public int sumNumbers(TreeNode root) {
    help(root, 0);
    return res;
  }

  private void help(TreeNode node, int num) {
    if (node == null) {
      return;
    }
    num = num * 10 + node.val;
    if (node.left == null && node.right == null) {
      res += num;
    }
    help(node.left, num);
    help(node.right, num);
  }
}
```

Path sum:

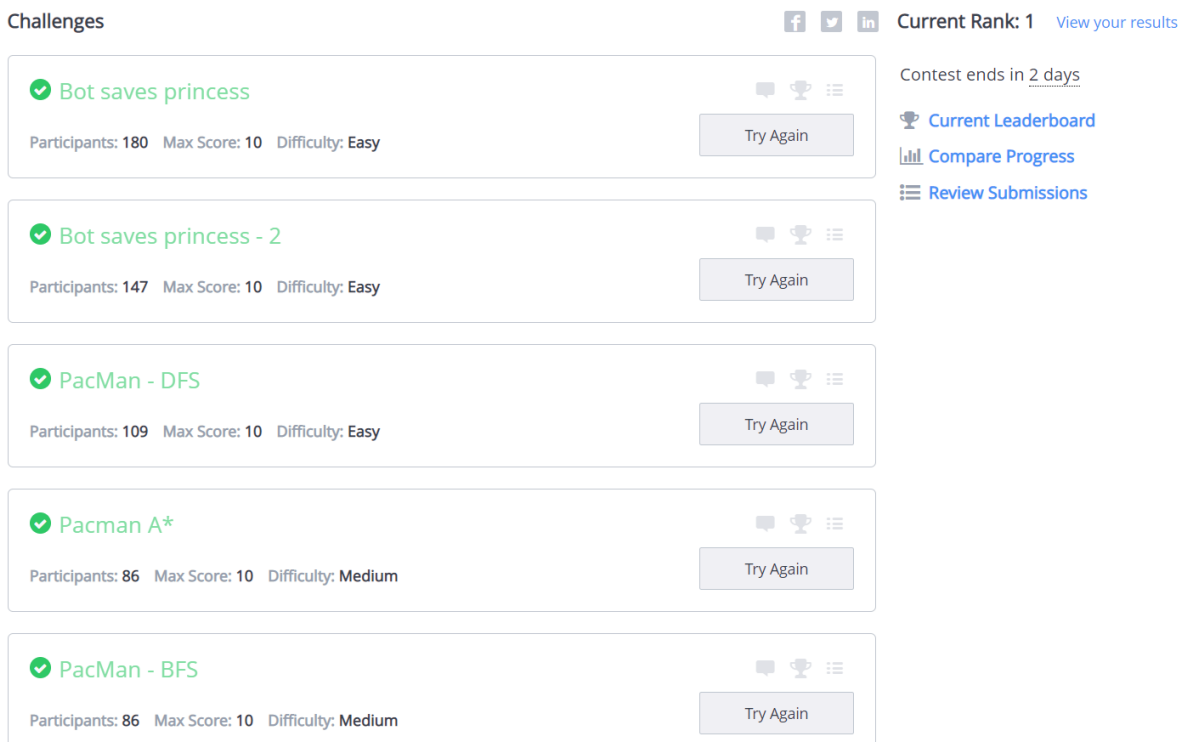
```
class Solution {
```

```
  public boolean hasPathSum(TreeNode root, int sum) {
    if(root == null) return false;
    if(root.left == null && root.right == null){
      return root.val == sum;
    }
    return hasPathSum(root.left, sum-root.val) || hasPathSum(root.right, sum-root.val);
  }
}
```

Maximum depth of binary tree:

```
class Solution(object):
  def maxDepth(self, root):
    return 1 + max(self.maxDepth(root.left), self.maxDepth(root.right)) if root else 0
```

HACKERRANK



Bot saves princess:

```
#include <stdio.h>
#include <string.h>
```

```
#include <math.h>

void displayPathtoPrincess(int n, char grid[n][n]){
  int i, j, up, left;
  short prince[2], princess[2];
  for(i = 0; i < n; ++i) {
    for(j = 0; j < n; ++j) {
      if (grid[i][j] == 'm') {
        prince[0] = i;
        prince[1] = j;
      }
      if (grid[i][j] == 'p') {
        princess[0] = i;
        princess[1] = j;
      }
    }
  }
  if ((up = princess[0] - prince[0]) < 0) {
    for(; up < 0; ++up)
      printf("UP\n");
  } else {
    for(; up > 0; --up)
      printf("DOWN\n");
  }

  if ((left = princess[1] - prince[1]) < 0) {
    for(; left < 0; ++left)
      printf("LEFT\n");
  } else {
    for(; left > 0; --left)
      printf("RIGHT\n");
```

```
  }
}
int main() {
  int m;
  scanf("%d", &m);
  char grid[m][m];
  char line[m];
  for(int i=0; i<m; i++) {
    scanf("%s", line);
    strncpy(grid[i], line, m);
  }
  displayPathtoPrincess(m, grid);
  return 0;
}
```

<u>Bot saves princess-2:</u>

```
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {
public static void main(String[] args) {
        int [][] a = new int[2][2];
    Scanner sc = new Scanner(System.in);
            int n;
        n = sc.nextInt();


            a[0][0]=sc.nextInt();
            a[0][1]=sc.nextInt();
```

```
   for(int i =0;i<n;i++){
   String S = sc.next();
 for(int j =0;j<n;j++){
   int c = (int)S.charAt(j);
   if(c==109)
    {
        a[0][0]=i;
        a[0][1]=j;
    }
    if(c==112)
    {
        a[1][0]=i;
        a[1][1]=j;
    }
 }
}
    int mI = a[0][0];
    int mJ = a[0][1];
    int pI = a[1][0];
    int pJ = a[1][1];
    int dif =(mI -pI);
    boolean printS= true;
if(dif>0 && printS)
{
   System.out.println("UP");
   printS= false;
}
if(dif<0&& printS)
{
   System.out.println("DOWN");
```

```
        printS= false;
    }
    dif =(mJ -pJ);
    if(dif>0&& printS){
        System.out.println("LEFT");
        printS= false;
          }
    if(dif<0&& printS){
         System.out.println("RIGHT");
          }
    }
}
```

PacMan-DFS:

```
import copy
pacman_x, pacman_y = list(map(int, input().split()))
food_x, food_y = list(map(int, input().split()))
n, m = list(map(int, input().split()))
grid = []
node_expanded = []
stack = []
answer_routes = None

for i in range(0, n):
    grid.append(list(map(str, input())))

directions = [[-1, 0], [0, -1], [0, 1], [1, 0]]

stack.append([pacman_x, pacman_y, []])
while len(stack) > 0:
    x, y, r = stack.pop()
```

```
    routes = copy.deepcopy(r)
    routes.append([x, y])

    node_expanded.append([x, y])

    if x == food_x and y == food_y:
        if answer_routes == None:
            answer_routes = routes
            break

    for direction in directions:
        next_x, next_y = x + direction[0], y + direction[1]
        if next_x < 0 or next_x >= n or next_y < 0 and next_y >= n:
            continue

        if grid[next_x][next_y] == "-" or grid[next_x][next_y] == ".":
            grid[next_x][next_y] = '='
            stack.append([next_x, next_y, routes])

print(str(len(node_expanded)))
for point in node_expanded:
    print(str(point[0]) + " " + str(point[1]))

print(str(len(answer_routes) - 1))
for point in answer_routes:
    print(str(point[0]) + " " + str(point[1]))
```

PacMan A*:

```
import copy
pacman_x, pacman_y = list(map(int, input().split()))
food_x, food_y = list(map(int, input().split()))
```

```
n, m = list(map(int, input().split()))
grid = []
queue = []
answer_routes = None

for i in range(0, n):
    grid.append(list(map(str, input())))
directions = [[-1, 0], [0, -1], [0, 1], [1, 0]]
queue.append([pacman_x, pacman_y, [], 0])
while len(queue) > 0:
    x, y, r, score = queue.pop(0)
    routes = copy.deepcopy(r)
    routes.append([x, y])
    if x == food_x and y == food_y:
        if answer_routes == None:
            answer_routes = routes
            break
    possible_moves = []
    for direction in directions:
        next_x, next_y = x + direction[0], y + direction[1]
        if next_x < 0 or next_x >= n or next_y < 0 and next_y >= n:
            continue
        if grid[next_x][next_y] == "-" or grid[next_x][next_y] == ".":
            grid[next_x][next_y] = '='
            possible_moves.append([next_x, next_y, score + abs(food_x - next_x) + abs(food_y - next_y)])
    possible_moves.sort(key = lambda x: x[2])
    for move in possible_moves:
        queue.append([move[0], move[1], routes, score])
print(str(len(answer_routes) - 1))
for point in answer_routes:
    print(str(point[0]) + " " + str(point[1]))
```

PacMan-BFS:

```
import copy
pacman_x, pacman_y = list(map(int, input().split()))
food_x, food_y = list(map(int, input().split()))
n, m = list(map(int, input().split()))
grid = []
node_expanded = []
queue = []
answer_routes = None

for i in range(0, n):
    grid.append(list(map(str, input())))

directions = [[-1, 0], [0, -1], [0, 1], [1, 0]]

queue.append([pacman_x, pacman_y, []])
while len(queue) > 0:
    x, y, r = queue.pop(0)
    routes = copy.deepcopy(r)
    routes.append([x, y])

    node_expanded.append([x, y])

    if x == food_x and y == food_y:
        if answer_routes == None:
            answer_routes = routes
            break

    for direction in directions:
        next_x, next_y = x + direction[0], y + direction[1]
        if next_x < 0 or next_x >= n or next_y < 0 and next_y >= n:
```

```
            continue
        if grid[next_x][next_y] == "-" or grid[next_x][next_y] == ".":
            grid[next_x][next_y] = '='
            queue.append([next_x, next_y, routes])
print(str(len(node_expanded)))
for point in node_expanded:
    print(str(point[0]) + " " + str(point[1]))
print(str(len(answer_routes) - 1))
for point in answer_routes:
    print(str(point[0]) + " " + str(point[1]))
```

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1	h2100031161		61.40	871:52:42	
1	h2100031219	Compare	61.40	884:34:30	
1	klu_2100030529		61.40	894:54:59	
1	h2100032489		61.40	924:59:18	
1	h2100032419		61.40	931:25:51	
1	KLU_2100030055		61.40	932:55:47	

1 2 3 4 5 6 7 8 9 10

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