1. 题目

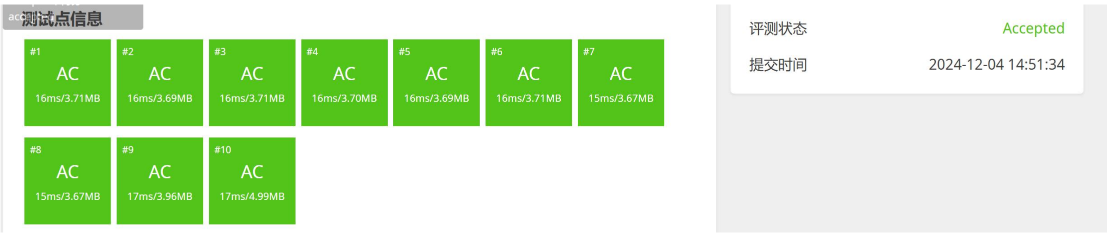
LuoguP1255 数楼梯

dp, bfs, https://www.luogu.com.cn/problem/P1255

代码：

```
n = int(input())
dp = [1] * (n + 1)
for i in range(2, n + 1):
    dp[i]=dp[i - 1]+dp[i - 2]
print(dp[n])
```

代码运行截图 （至少包含有"Accepted"）



ac测试点信息

#1 AC 16ms/3.71MB
#2 AC 16ms/3.69MB
#3 AC 16ms/3.71MB
#4 AC 16ms/3.70MB
#5 AC 16ms/3.69MB
#6 AC 16ms/3.71MB
#7 AC 15ms/3.67MB
#8 AC 15ms/3.67MB
#9 AC 17ms/3.96MB
#10 AC 17ms/4.99MB

评测状态 Accepted

提交时间 2024-12-04 14:51:34

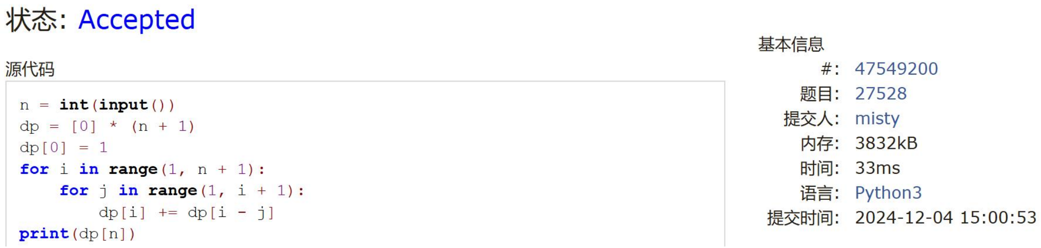
27528: 跳台阶

dp, http://cs101.openjudge.cn/practice/27528/

代码：

```
n = int(input())
dp = [0] * (n + 1)
dp[0] = 1for i in range(1, n + 1):
    for j in range(1, i + 1):
        dp[i] += dp[i - j]print(dp[n])
```

代码运行截图 ==（至少包含有"Accepted"）==



状态: Accepted

源代码

```
n = int(input())
dp = [0] * (n + 1)
dp[0] = 1
for i in range(1, n + 1):
    for j in range(1, i + 1):
        dp[i] += dp[i - j]
print(dp[n])
```

基本信息

#: 47549200
题目: 27528
提交人: misty
内存: 3832kB
时间: 33ms
语言: Python3
提交时间: 2024-12-04 15:00:53

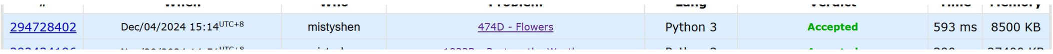
474D. Flowers

dp, https://codeforces.com/problemset/problem/474/D

代码：

```
P = int(1e9) + 7
def main():
    n = int(1e5)
    T, k = map(int, input().split())
    f = [1] * (n + 1)
    s = [i + 1 for i in range(n + 1)]
    for i in range(k, n + 1):
        f[i] = (1 + s[i - k]) % P
        s[i] = (s[i - 1] + f[i]) % P
    for ___ in range(T):
        x, y = map(int, input().split())
        print(((s[y] - s[x - 1]) % P + P) % P)
if __name__ == "__main__":
    main()
```

代码运行截图 （至少包含有"Accepted"）



294728402	Dec/04/2024 15:14UTC+8	mistyshen	474D - Flowers	Python 3	Accepted	593 ms	8500 KB

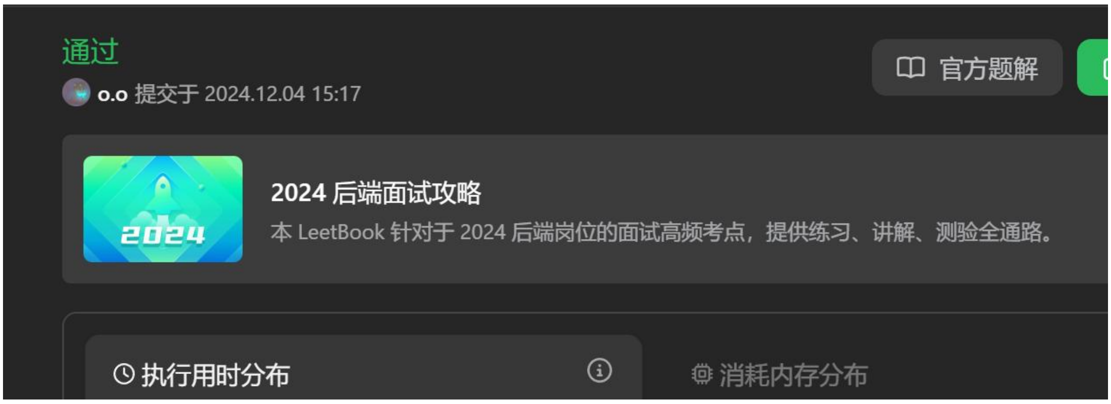
LeetCode5.最长回文子串

dp, two pointers, string, https://leetcode.cn/problems/longest-palindromic-substring/

代码：

```
class Solution:
    def expandAroundCenter(self, s, left, right):
        while left >= 0 and right < len(s) and s[left] == s[right]:
            left -= 1
            right += 1
        return left + 1, right - 1

    def longestPalindrome(self, s: str) -> str:
        start, end = 0, 0
        for i in range(len(s)):
            left1, right1 = self.expandAroundCenter(s, i, i)
            left2, right2 = self.expandAroundCenter(s, i, i + 1)
            if right1 - left1 > end - start:
                start, end = left1, right1
            if right2 - left2 > end - start:
                start, end = left2, right2
        return s[start: end + 1]
```

代码运行截图 （至少包含有"Accepted"）



通过

o.o 提交于 2024.12.04 15:17

2024 后端面试攻略

本 LeetBook 针对于 2024 后端岗位的面试高频考点，提供练习、讲解、测验全通路。

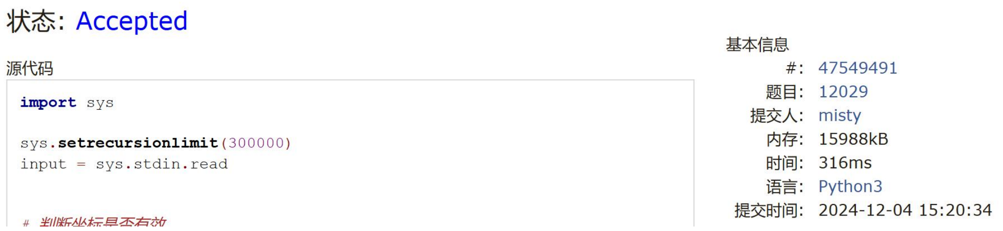
12029：水淹七军

bfs, dfs, http://cs101.openjudge.cn/practice/12029/

代码：

```
import sys
sys.setrecursionlimit(300000)input = sys.stdin.read

# 判断坐标是否有效 def is_valid(x, y, m, n):
    return 0 <= x < m and 0 <= y < n

# 深度优先搜索模拟水流 def dfs(x, y, water_height_value, m, n, h, water_height):
    dx = [-1, 1, 0, 0]
    dy = [0, 0, -1, 1]

    for i in range(4):
        nx, ny = x + dx[i], y + dy[i]
        if is_valid(nx, ny, m, n) and h[nx][ny] < water_height_value:
            if water_height[nx][ny] < water_height_value:
                water_height[x][y] = water_height_value
                dfs(nx, ny, water_height_value, m, n, h, water_height)

# 主函数 def main():
    data = input().split()  # 快速读取所有输入数据
    idx = 0
    k = int(data[idx])
    idx += 1
    results = []

    for _ in range(k):
        m, n = map(int, data[idx:idx + 2])
        idx += 2
        h = []
        for i in range(m):
            h.append(list(map(int, data[idx:idx + n])))
            idx += n
        water_height = [[0] * n for _ in range(m)]

        i, j = map(int, data[idx:idx + 2])
        idx += 2
        i, j = i - 1, j - 1

        p = int(data[idx])
        idx += 1

        for _ in range(p):
            x, y = map(int, data[idx:idx + 2])
            idx += 2
            x, y = x - 1, y - 1
            if h[x][y] <= h[i][j]:
                continue

            dfs(x, y, h[x][y], m, n, h, water_height)

        results.append("Yes" if water_height[i][j] > 0 else "No")

    sys.stdout.write("\n".join(results) + "\n")

if __name__ == "__main__":
    main()
```

代码运行截图 （至少包含有"Accepted"）



状态: Accepted

源代码

```
import sys

sys.setrecursionlimit(300000)
input = sys.stdin.read


# 判断坐标是否有效
```

基本信息

#: 47549491
题目: 12029
提交人: misty
内存: 15988kB
时间: 316ms
语言: Python3
提交时间: 2024-12-04 15:20:34

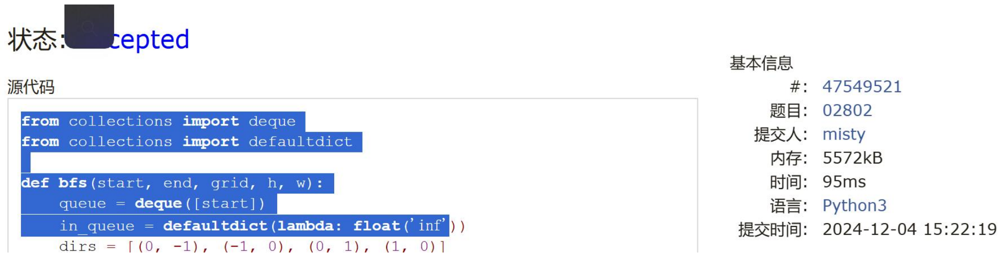
02802：小游戏

bfs, http://cs101.openjudge.cn/practice/02802/

代码：

```
from collections import dequefrom collections import defaultdict
def bfs(start, end, grid, h, w):
    queue = deque([start])
    in_queue = defaultdict(lambda: float('inf'))
    dirs = [(0, -1), (-1, 0), (0, 1), (1, 0)]
    min_x = float('inf')
    while queue:
        x, y, d, seg = queue.popleft()

        for i, (dx, dy) in enumerate(dirs):
            nx, ny = x + dx, y + dy

            new_seg = seg if i == d else seg + 1
            if (nx, ny) == end:
                min_x = min(min_x, new_seg)
                continue

            if (0 <= nx < h + 2 and 0 <= ny < w + 2 and new_seg<in_queue[(nx,ny,i)]
                    and grid[nx][ny] != 'X'):
                    in_queue[(nx, ny, i)] = new_seg
                    queue.append((nx, ny, i, new_seg))

    return min_x

board_num = 1while True:
    w, h = map(int, input().split())
    if w == h == 0:
        break

    grid = [' ' * (w + 2)] + [' ' + input() + ' ' for _ in range(h)] + [' ' * (w + 2)]
    print(f"Board #{board_num}:")
    pair_num = 1
    while True:
        y1, x1, y2, x2 = map(int, input().split())
        if x1 == y1 == x2 == y2 == 0:
            break

        start = (x1, y1, -1, 0)
        end = (x2, y2)

        seg = bfs(start, end, grid, h, w)
        if seg == float('inf'):
            print(f"Pair {pair_num}: impossible.")
        else:
            print(f"Pair {pair_num}: {seg} segments.")
        pair_num += 1

    print()
    board_num += 1
```

代码运行截图 （至少包含有"Accepted"）



状态: [redacted]cepted

源代码

```
from collections import deque
from collections import defaultdict

def bfs(start, end, grid, h, w):
    queue = deque([start])
    in_queue = defaultdict(lambda: float('inf'))
    dirs = [(0, -1), (-1, 0), (0, 1), (1, 0)]
```

基本信息

#:	47549521
题目:	02802
提交人:	misty
内存:	5572kB
时间:	95ms
语言:	Python3
提交时间:	2024-12-04 15:22:19

2. 学习总结和收获

1.DP 会做了

2.bfs 还不会做

3.下周上机去熟悉一下机房环境