

# 计算概论(B) 课前问题4

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Updated 1524 GMT+8 Sep 2, 2023

2023 fall, Compiled by Hongfei Yan

Markdown (用 <https://typoraio.cn> 编辑) 格式文件在, <https://github.com/GMyhf/2023fall-cs101>

## Answer:

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【宋昕杰，物理学院，2023年秋】

操作系统: Windows 11 22H2

Python编程环境: PyCharm 2023.1.3 (Community Edition)

C/C++编程环境: g++ (x86\_64-win32-seh-rev0, Built by MinGW-W64 project) 8.1.0

思路:

找到1的位置，根据这个位置计算距离中心的步数

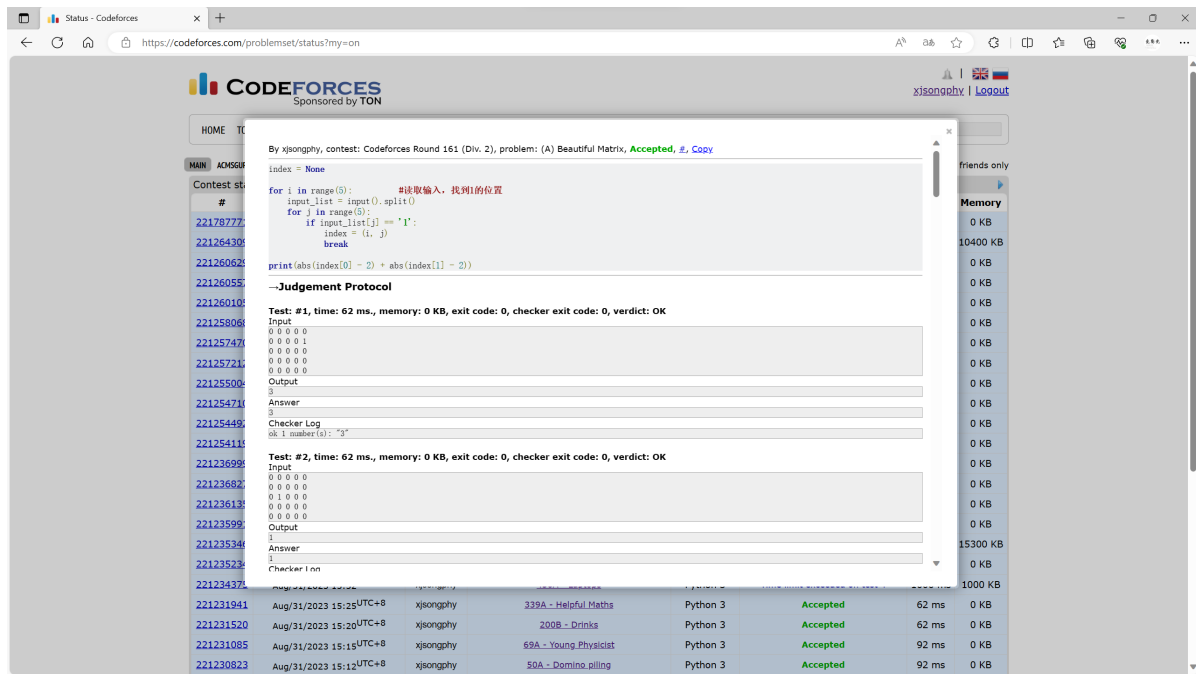
## Python3 代码

```
index = None

for i in range(5):          #读取输入，找到1的位置
    input_list = input().split()
    for j in range(5):
        if input_list[j] == '1':
            index = (i, j)
            break

print(abs(index[0] - 2) + abs(index[1] - 2))
```

Python代码运行截图



## C++ 代码

```

#include<iostream>
using namespace std;

int main()
{
    int iIndexofX, iIndexofY;
    char cTemp;

    for(int i = 0; i < 5; i++)
    {
        for(int j = 0; j < 5; j++)
        {
            cin >> cTemp;
            if(cTemp == '1')
            {
                iIndexofX = i;
                iIndexofY = j;
                break;
            }
        }
    }

    cout << abs(2 - iIndexofX) + abs(2 - iIndexofY);
    return 0;
}

```

C++ 代码运行截图

CODEFORCES  
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By xjsongphy, contest: Codeforces Round 161 (Div. 2), problem: (A) Beautiful Matrix, Accepted, #, Copy

```
#include<iostream>
using namespace std;

int main()
{
    int iIndexOfX, iIndexOfY;
    char cTemp;
    for(int i = 0; i < 5; i++)
    {
        for(int j = 0; j < 5; j++)
        {
            cin >> cTemp;
            if(cTemp == '1')
            {
                iIndexOfX = i;
                iIndexOfY = j;
                break;
            }
        }
    }

    cout << abs(2 - iIndexOfX) + abs(2 - iIndexOfY);
    return 0;
}
```

—Judgement Protocol

Test: #1, time: 0 ms., memory: 0 KB, exit code: 0, checker exit code: 0, verdict: OK

Input

```
0 0 0 0
0 0 0 1
0 0 0 0
0 0 0 0
0 0 0 0
```

Output

```
0
```

Answer

Problem	Contest	Author	Language	Verdict	Time	Memory
221234375	Aug/31/2023 15:52 UTC+8	xjsongphy	Python 3	Time limit exceeded on test 4	1000 ms	1000 KB
221231941	Aug/31/2023 15:25 UTC+8	xjsongphy	Python 3	Accepted	62 ms	0 KB
221231520	Aug/31/2023 15:20 UTC+8	xjsongphy	Python 3	Accepted	62 ms	0 KB
221231085	Aug/31/2023 15:15 UTC+8	xjsongphy	Python 3	Accepted	92 ms	0 KB

## 4. 学习总结和收获

此题不必存储所有数据，直接在读取时完成判断即可；从运行时间和代码上可以看出C++的高效和Python的简洁