

艾法諾科技 - JAVA面試考題

應試人：

面試日期：

主考官：

分數：

考題

請將答案另外寫在空白紙上

1. Given an array of integers, return indices of the two numbers such that they add up to a specific target. You may assume that each input would have exactly one solution, and you may not use the same element twice.

example:

```
Given nums = [2, 7, 11, 15], target = 9,
```

```
Because nums[0] + nums[1] = 2 + 7 = 9,  
return [0, 1].
```

2. You are given an $n \times n$ 2D matrix representing an image. Rotate the image by 90 degrees (clockwise).

Note: You have to rotate the image in-place, which means you have to modify the input 2D matrix directly. DO NOT allocate another 2D matrix and do the rotation.

Example 1:

```
Given input matrix =
```

```
[  
[1,2,3],  
[4,5,6],  
[7,8,9]  
],
```

```
rotate the input matrix in-place such that it becomes:
```

```
[  
[7,4,1],  
[8,5,2],  
[9,6,3]  
]
```

Example 2:

Given input matrix =

```
[
[ 5, 1, 9,11],
[ 2, 4, 8,10],
[13, 3, 6, 7],
[15,14,12,16]
],
```

rotate the input matrix in-place such that it becomes:

```
[
[15,13, 2, 5],
[14, 3, 4, 1],
[12, 6, 8, 9],
[16, 7,10,11]
]
```

Solution:

```
class Solution {
public void rotate(int[][] matrix) {

}
}
```

3. There is a table `courses` with columns: **student** and **class**

Please list out all classes which have more than or equal to 5 students.

For example, the table:

student	class
A	Math
B	English
C	Math
D	Biology
E	Math
F	Computer
G	Math
H	Math
I	Math

Should output:

```
+-----+  
| class  |  
+-----+  
| Math   |  
+-----+
```

Note: The students should not be counted duplicate in each course.