

6. ZigZag Conversion

[Add to List](#)[Description](#) (?tab=Description)[Submission](#) (?tab=Submission)[Solutions](#) (?tab=Solutions)Total Accepted: **136778** Total Submissions: **523673** Difficulty: **Medium** Contributors: **Admin**

The string "PAYPALISHIRING" is written in a zigzag pattern on a given number of rows like this: (you may want to display this pattern in a fixed font for better legibility)

```
P   A   H   N
A P L S I I G
Y   I   R
```

And then read line by line: "PAHNAPLSIIGYIR"

Write the code that will take a string and make this conversion given a number of rows:

```
string convert(string text, int numRows);
```

`convert("PAYPALISHIRING", 3)` should return `"PAHNAPLSIIGYIR"`.

[Hide Tags](#)[String](#) (/tag/string/)

Have you met this question in a real interview?

[Discuss \(https://discuss.leetcode.com/category/14\)](https://discuss.leetcode.com/category/14)[Pick One \(/problems/random-one-question/\)](/problems/random-one-question/)[Editorial Solution](#)

C++



```
1 class Solution {
2 public:
3     string convert(string s, int numRows) {
4         if(numRows == 1) return s;
5         vector<string> row(numRows);
6         int magic = (numRows-1)*2;
7         for(int i = 0; i<s.length(); ++i) {
8             int r = i % magic;
9             if(r < numRows) {
10                row[r] += s[i];
11            } else {
12                row[magic - r] += s[i];
13            }
14        }
15        stringstream ss;
16        for(auto str : row) {
17            ss<<str;
18        }
19        return ss.str();
20    }
21 };
```

Custom Testcase ☐

Contribute Testcase

[Run Code](#)[Submit Solution](#)[Frequently Asked Questions \(/faq/\)](/faq/) | [Terms of Service \(/tos/\)](/tos/)[Privacy](#)

Copyright © 2017 LeetCode

[Send Feedback \(mailto:admin@leetcode.com?subject=Feedback\)](mailto:admin@leetcode.com?subject=Feedback)

