6. ZigZag Conversion

Medium

9182851FavoriteShare

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 s, int numRows);

Example 1:

Input: s = "PAYPALISHIRING", numRows = 3  
Output: "PAHNAPLSIIGYIR"

Example 2:

Input: s = "PAYPALISHIRING", numRows = 4  
Output: "PINALSIGYAHRPI"  
Explanation:  
  
P I N  
A L S I G  
Y A H R  
P I

class Solution {

public:

string convert(string s, int numRows) {

if(numRows>=s.size()) return s;

string ret="";

int a=2\*numRows-2,b=0;

if(a==0) return s;

int first,second;

for(int i=1;i<=numRows;i++){

int index=i-1;

ret+=s.substr(index,1);

first=a;second=b;

if(second==0) second=first;

else if(first==0) first=second;

int c=1;

while(true){

if(c%2==1) index+=first;

else index+=second;

if(index<s.size()) ret+=s[index];

else break;

c++;

}

a-=2;

b+=2;

}

return ret;

}

};

Success

[Details](https://leetcode.com/submissions/detail/213299829/)

Runtime: 24 ms, faster than 92.85% of C++ online submissions for ZigZag Conversion.

Memory Usage: 16.7 MB, less than 83.30% of C++ online submissions forZigZag Conversion.