ZigZag Conversion

Question Solution

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 nRows);

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

Answer:

**class** Solution {

**public**:

**string** convert(**string** s, **int** numRows)

{

**int** row = numRows, i = 0;

**int** len = s.length();

**if**(len==1||numRows==1) **return** s;

**string** convertion;

**int** interval[3] = {0,0,0};

interval[0] = (numRows - 2) \* 2 + 2;

**while** (row)

{

interval[2] = (numRows - row) \* 2;

interval[1] = interval[0] - interval[2];

i = numRows - row;

**for** (; i < len;)

{

**if** (interval[1] != 0)

{

convertion.append(1, s[i]);

}

i = i + interval[1];

**if** (interval[2] != 0&&i<len)

{

convertion.append(1, s[i]);

}

i = i + interval[2];

}

row =row - 1;

}

**return** convertion;

}

};

char\* convert(char\* s, int numRows) {

int n=strlen(s);

char\* a;

int k=0;

if(numRows==1 || n<**=numRows)return** s;

for(int i=0;i<numRows;i++)

{

for(int j=i;j<n;j+=2\*(numRows-1))

{

a[k++]=s[j];

if(i!=0 && i!=numRows-1)

{

int t=j+2\*(numRows-1)-2\*i;

if(t<n)

a[k++]=s[t];

}

}

}

a[k]='\0';

return a;

}