

## 6. Zigzag Conversion



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
```

### Example 3:

**Input:** s = "A", numRows = 1  
**Output:** "A"

### Constraints:

- $1 \leq s.length \leq 1000$
  - s consists of English letters (lower-case and upper-case), ' ', and '.'.
  - $1 \leq numRows \leq 1000$
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