## Problem 2 – String Matrix Rotation

You are given a **sequence of text lines**. Assume these text lines form a **matrix of characters** (pad the missing positions with spaces to build a rectangular matrix). Write a program to **rotate the matrix** by 90, 180, 270, 360, … degrees. Print the result at the console as sequence of strings. Examples:

|  |  |  |  |
| --- | --- | --- | --- |
| **Input** | **Rotate(90)** | **Rotate(180)** | **Rotate(270)** |
| hello  softuni  exam |  |  |  |
|  |

### Input

The input is read from the console:

* The first line holds a command in format "**Rotate(X)**" where **X** are the degrees of the requested rotation.
* The next lines contain the **lines of the matrix** for rotation.
* The input ends with the command "END".

The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

Print at the console the **rotated matrix** as a sequence of text lines.

### Constraints

* The rotation **degrees** is positive integer in the range [0…90000], where **degrees** is **multiple of 90**.
* The number of matrix lines is in the range [1…**1 000**].
* The matrix lines are **strings** of length 1 … 1 000.
* Allowed working time: 0.2 seconds. Allowed memory: 16 MB.

### Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| Rotate(90)  hello  softuni  exam  END | esh  xoe  afl  mtl  uo  n  i | Rotate(180)  hello  softuni  exam  END | maxe  inutfos  olleh | Rotate(270)  hello  softuni  exam  END | i  n  ou  ltm  lfa  eox  hse |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Output** |  | **Input** | **Output** |  | **Input** | **Output** |
| Rotate(720)  js  exam  END | js  exam | Rotate(810)  js  exam  END | ej  xs  a  m | Rotate(0)  js  exam  END | js  exam |