



# Problem 9

## Mirror to the Stars

7 points

JAVA: program name must be prob09.class  
C/C++ program name must be: prob09.exe

### Task Description

Astronomers use a wide variety of telescope optics to observe the night sky -- and the sun, for that matter. These telescopes use combinations of mirrors and/or lenses to focus light into the observer's view. Depending on the configuration, the image in view may be inverted (upside-down), reversed (mirror-image), or both. Some telescopes do actually produce an image that is neither reversed nor inverted, but those telescopes do not interest us for this contest. Write a program that can invert and/or reverse an image.

### Program Input

The program will read a series of images from an input file (prob09.in). Each image is preceded by a line with the image name, dimensions, and one or two letters indicating which transformation needs to be performed: I for inversion, R for reversal. The maximum image dimensions are 36 wide by 24 high.

```
ORION 13 7 R
.*.....
.....*
.....*
.....*
...*.*....
.....*
*.....
.....*
CASSIOPEIA 13 7 IR
...*.....
.....
*.....
.....*
.....*
.....
.....*
```

### Program Output

The program print each image transformed according to the input transformation letter(s). Each image must be preceded by its label.

```
ORION
.....*
.*.....
.....*
.....*.*
.....*
.....*
*.....
CASSIOPEIA
*.....
.....
.....*
...*.....
.....*
.....*
```