7. Magic Square

Program Name: Magic.java Input File: magic.dat

At the Math Club's annual banquet, the after-dinner speaker asked one of the students to give him an integer between 34 and 100. The student said 43. The speaker then created a 4 x 4 magic square in which each column, each row, and each diagonal summed to the magic number 43. Additionally, the numbers in the four corners added to 43 as did the "horizontal pairs" (22, 3 and 12, 6), the "vertical pairs" (11, 23 and 5, 4) and the center four numbers (2, 7, 25, 9). You are to write a program to determine the magic number and check to see that all of the criteria have been met.

```
 8 11 23  1
22  2  7 12
 3 25  9  6
10  5  4 24
```

Input
The first line will contain a single integer `n` that indicates the number of 4 x 4 squares to follow.

Output
If the square meets all of the criteria listed above, print the magic number and `MAGIC`. If it is not a magic square, print `NOT MAGIC`.

Example Input File
```
2
8 11 23 1
22 2 7 12
3 25 9 6
10 5 4 24
8 11 23 1
22 2 7 12
3 25 9 6
10 5 4 19
```

Example Output to Screen
```
43 MAGIC
NOT MAGIC
```