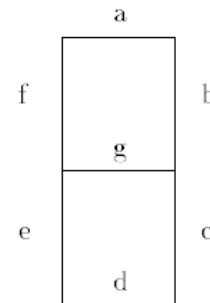# F: LED Test

Many electronic devices have digital read-outs that use light-emitting diode (LED) arrays. A common digital display element uses seven, bar-shaped LEDs, with the seven bars (segments) arranged and identified as shown on the right side of this page. Digits are displayed by illuminating various combinations of the seven segments in accordance with the following table:

Seven Segments Configuration



| Digit | Segments Illuminated | | | | | | |
|---|---|---|---|---|---|---|---|
| Displayed | a | b | c | d | e | f | g |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 2 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| 3 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| 4 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| 5 | 1 | 0 | 1 | 1 | 0 | 1 | 1 |
| 6 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| 7 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |

For example, the digit three (3) would be displayed as the illumination of the segments {a,b,c,d,g} as shown on the right:



The problem you will solve is abstracted from one occurring in an incoming-parts inspection department in a microwave-oven factory. The incoming seven-segment LED's are checked for their proper functioning by automated equipment running under programmable control.

You must create a program that observes successive sets of illumination conditions of the seven segments of a single-digit display, and decide whether the sequence of illuminations could have been a valid count-down sequence. Unfortunately, some of the segments may be burned out at the start of your test, and additional segments may burn out during the test. No segments will ever fail into the ON mode; no burned out segments will recover. Nevertheless, you are expected to be able to read through the ambiguities in this malfunctioning display by watching the display count down through one or more values.

## Input
The input consists of a series of data sets having the following format: First line - A single unsigned integer, N, with value greater than zero (0) and less than eleven (11). The integer is left-justified on the input line. Next N lines - Each line has a string of seven (7) contiguous '1' or '0' digits showing the light condition of the segments of the LED display. These successive lines supposedly represent a count-down sequence. The first of these seven digits, the illumination reading for the "a" segment, will be the first character on a line.  The last line of data contains a single zero (0).

There is no information about where the count-down sequence begins for a given data set. There is no information that carries over from one data set to the next; each data set represents a different LED being tested.

## Output

For each supposed count-down sequence in the input data set, you must print a single line containing either MATCH or MISMATCH, depending on whether the sequence could possibly be a valid count-down sequence within the range { 9, 8, 7, 6, 5, 4, 3, 2, 1, 0 }, assuming that an unknown number of burned-out segments might have been present at the beginning of the test, and additional burn-outs may occur during the test.

| Sample Input | Sample Output |
|---|---|
| 1<br>1111011<br>2<br>0000000<br>0000000<br>2<br>1111111<br>1111111<br>3<br>1011111<br>1011011<br>0110011<br>3<br>1011110<br>1011010<br>0110010<br>0 | MATCH<br>MATCH<br>MISMATCH<br>MATCH<br>MATCH |