

Problem C: Cantor

The ternary expansion of a number is that number written in base 3. A number can have more than one ternary expansion. A ternary expansion is indicated with a subscript 3. For example, $1 = 1_3 = 0.222..._3$, and $0.875 = 0.212121..._3$.

The Cantor set is defined as the real numbers between 0 and 1 inclusive that have a ternary expansion that does not contain a 1. If a number has more than one ternary expansion, it is enough for a single one to not contain a 1.

For example, $0 = 0.000..._3$ and $1 = 0.222..._3$, so they are in the Cantor set. But $0.875 = 0.212121..._3$ and this is its only ternary expansion, so it is not in the Cantor set.

Your task is to determine whether a given number is in the Cantor set.

Input Specification

The input consists of several test cases.

Each test case consists of a single line containing a number x written in decimal notation, with $0 \leq x \leq 1$, and having at most 6 digits after the decimal point.

The last line of input is END. This is not a test case.

Sample Input

```
0
1
0.875
END
```

Output Specification

For each test case, output MEMBER if x is in the Cantor set, and NON-MEMBER if x is not in the Cantor set.

Output for Sample Input

```
MEMBER
MEMBER
NON-MEMBER
```

Malcolm Sharpe



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