B

Zeros

Time Limit	1 second
Memory Limit	32 MB

Let **L** be an infinite set of bit strings defined by the following recursive definition:

- **0** is in **L**
- If **0X** is in **L**, then **01X** is also in **L**
- If **1X** is in **L**, then **00X** is also in **L**
- If **X0** is in **L**, then **X10** is also in **L**
- If **X1** is in **L**, then **X00** is also in **L**
- If **X00Y** is in **L**, then **X101Y** is also in **L**
- If **X01Y** is in **L**, then **X100Y** is also in **L**
- If **X10Y** is in **L**, then **X001Y** is also in **L**
- If **X11Y** is in **L**, then **X000Y** is also in **L**

, where **X** and **Y** are any bit strings (can be empty string). For example, all members of **L** having length less than four are listed here: **0**, **01**, **10**, **000**, **001**, **011**, **100** and **110**.

Let Z_N be a bit string of length **N** containing **only zeros**. For any given positive integer N_c, is Z_{Nc} a member of **L**?

INPUT

Input will consist of many test cases (no more than 10^4 test cases), each on a separate line. Each line will consist of a positive integer N_c ($N_c \leq 10^4$). Input will be terminated by a line containing zero (**0**), and this line should not be processed.

OUTPUT

Output for each test case is a line "**Case #c:** A" where **c** is the test case number and **A** is "**YES**" if Z_{Nc} is in **L**, otherwise "**NO**".

EXAMPLE

Sample Input	Sample Output
1 2 3 100 0	Case #1: YES Case #2: NO Case #3: YES Case #4: YES