

N	Natty wants to check evidence	
	Time Limit (seconds)	1
	Memory Limit (MB)	512

Natty received an assignment from the Royal Thai Police to verify the evidence they have. The evidence is divided into **valid evidence** (good) and **invalid evidence** (bad). Each piece of evidence is represented by a string consisting only of **uppercase English letters** with no spaces.

To classify whether the evidence is valid, the string must follow these rules:

1. If the substring **ABCDEF** appears, the next character must be **C**, **D**, **E**, or the string must end immediately.
2. If the substring **UVWXYZ** appears, the next character must be **W**, **X**, **Y**, or **Z**, or the string must end immediately.
3. If the letter **N** appears consecutively, there must be **more than 4 consecutive N's** (i.e., at least 5 in a row).
4. If the substring **MNO** appears, the next character must be **O** or the string must end immediately.
5. If the letter **Z** appears consecutively 3 or more times, the next character must be **A** or the string must end immediately.
6. The letters **I** and **O** must not appear next to each other.
7. The letter **I** must not appear consecutively more than 4 times.

The string length can range from **1 to 10,000,000 characters**. Because the evidence strings can be very long, the police have asked you to write a program to check whether the evidence is valid.

INPUT

String with length N and without space when $1 \leq N \leq 10^7$

OUTPUT

Show “Good” if string is follow conditions
Show “Bad” if string is out of some conditions

Input	Output
ABCDEFEC	Good
UVWXYZW	Good
NNNN	Good
NNN	Bad
UVXZABENIG	Good
ABIG	Good
ABCDEFGHIIKNN	Bad
AEIOU	Bad
III	Good
ABICDIIIEFIIIGHIIII	Bad
TOI	Bad