# No Prefix Set

HackerRank

**Problem Statement**

Given $N$ strings. Each string contains only small letters from $a - j$(both inclusive). The set of $N$ strings is said to be **GOOD SET** if no string is **prefix** of another string else, it is **BAD SET**.

For example, *aab*, *abcde*, *aabcd* is **BAD SET** because *aab* is prefix of *aabcd*.

Print **GOOD SET** if it satisfies the problem requirement.
Else, print **BAD SET** and the first string for which the condition fails.

**Input Format**
First line contains $N$, the number of strings in the set.
Then next $N$ lines follow, where $i^{th}$ line contains $i^{th}$ string.

**Constraints**
$1 \leq N \leq 10^5$
$1 \leq$ Length of the string $\leq 60$

**Output Format**
Output `GOOD SET` if the set is valid.
Else, output `BAD SET` followed by the first string for which the condition fails.

**Sample Input00**

```
7
aab
defgab
abcde
aabcde
cedaaa
bbbbbbbbbb
jabjjjad
```

**Sample Output00**

```
BAD SET
aabcde
```

**Sample Input01**

```
4
aab
aac
aacghgh
aabghgh
```

**Sample Output01**

```
BAD SET
aacghgh
```

**Explanation**
**aab** is prefix of **aabcde**. So set is **BAD SET** and it fails at string **aabcde**.