

Ada and Game

Ada the Ladybug is playing **Game of Digits** against her friend Velvet Mite Vinit. The game is played in following manner: At first, there is a four-digit number and a number of moves. Both Ada and Vinit take turns alternately (beginning with Ada). Both of them must increase ANY digit of the number, but if the digit was 9 it will become 0.

For example number 3590 can be expanded to: 4590,3690,3500 or 3591. If after all turns the number is greater than the original number, Ada wins - otherwise Vinit is the winner. Both of them play optimally - can you decide who is the winner?

PS: It is possible, that Ada will have one more turn (if number of turns is odd)

Input

First line of input will consist $T \leq 200$ number of test-cases. Each testcase will consist of four digit number $0 \leq N < 10^4$ [the original number] and $0 \leq M \leq 100$ [the number of turns].

Output

For each test-case, print the name of winner ("**Ada**" or "**Vinit**").

Example Input

```
5
0000 0
5566 3
3333 10
9999 9
1234 30
```

Example Output

```
Vinit
Ada
Ada
Vinit
Ada
```