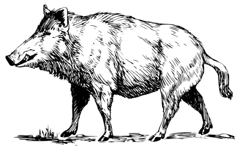
# Task Vepar



Two intervals of positive integers $\{a, a+1, \ldots, b\}$ and $\{c, c+1, \ldots, d\}$ are given. Determine whether the product $c \cdot (c+1) \cdots d$ is divisible by the product $a \cdot (a+1) \cdots b$.

## Input

The first line contains a single integer $t$ ($1 \leq t \leq 10$), the number of independent test cases.

Each of the following $t$ lines contains four positive integers $a_i, b_i, c_i, d_i$ ($1 \leq a_i \leq b_i \leq 10^7$, $1 \leq c_i \leq d_i \leq 10^7$).

## Output

Output $t$ lines in total. For the $i$-th test case, output `DA` (Croatian for *yes*) if $a_i \cdot (a_i+1) \cdots b_i$ divides $c_i \cdot (c_i+1) \cdots d_i$, and output `NE` (Croatian for *no*) otherwise.

## Scoring

In test cases worth 10 points it holds $a_i, b_i, c_i, d_i \leq 50$.
In test cases worth additional 20 points it holds $a_i, b_i, c_i, d_i \leq 1000$.
In test cases worth additional 10 points it holds $a_i = 1$.

## Examples

**input**

```
2
9 10 3 6
2 5 7 9
```

**output**

```
DA
NE
```

**input**

```
6
1 2 3 4
1 4 2 3
2 3 1 4
1 3 2 4
19 22 55 57
55 57 19 22
```

**output**

```
DA
NE
DA
DA
DA
DA
```

### Clarification of the first example:

We have $9 \cdot 10 = 90$ and $3 \cdot 4 \cdot 5 \cdot 6 = 360$. The answer is `DA` because 90 divides 360.

We calculate $2 \cdot 3 \cdot 4 \cdot 5 = 120$, which doesn't divide $7 \cdot 8 \cdot 9 = 504$. Thus the second answer is `NE`.