Non-Decreasing Prime Sequence

A prime number is a natural number which has exactly two distinct natural number divisors. First few prime numbers are: 2, 3, 5, 7, 11, 13, … and so on.

A non decreasing prime sequence (NDPS) is a sequence of prime numbers where i^{th} element is not less than $i\text{-}1^{th}$ element for all i>1. The weight of a NDPS is the product of all numbers of the sequence. Here are some examples of NDPSs with their corresponding weights.

NDPS	Weight
2	2
2 5 13	130 (2 X 5 X 13)
2 3 97	582 (2 X 3 X 97)

An NDPS **a** is smaller than another NDPS **b**, if number of elements in **a** is smaller than the number of elements in **b**. If **a** and **b** has same number of elements then lexicographically smaller sequence is the smaller NDPS. For the list given above, {2} is the smallest sequence because it has only one elements. {2 5 13} and {2 3 97} both have 3 elements, so {2 3 97} is second smallest because it is lexicographically smaller than {2 5 13}.

For a given range (**A**, **B**), where A<=B, you have to find the $\mathbf{K^{th}}$ smallest NDPS between all the NDPSs having weights in between **A** and **B**(inclusive).

Input

Input will start with an integer **T (T<=5000)**, the number of test cases. Each of the next **T** line will contain three integers **A**, **B** and **K (2<=A<=B<=1000000)**. **K** is a positive integer and you can safely assume that at least **K** NDPSs exists in the given range.

Output

For each case, you have to output one line, case number followed by the $\mathbf{K^{th}}$ smallest NDPS between all the NDPSs having weights between **A** and **B**(inclusive). See sample output for exact format.

Sample Input

```
3

2 10 1

2 10 5

2 10 9
```

Output for Sample Input

```
Case 1: 2

Case 2: 2 2

Case 3: 2 2 2
```