Prime Factors

Bhelu is very fond of prime numbers as well as factors of a number. So, he wishes to find all the prime factors of a number...

Your task is very simple. You just have to print all the prime factors in increasing order of all the numbers upto 10^5.

Note: Bhelu is smart and he knows that 1 is not a prime. So start printing prime factors of n such that (2 <= n <= 10^5).

Input

There is no input....

Output

10^ 5 - 1 lines containing prime factors of numbers, one line for each number in the following format:

<number>: <all the prime factors>

Example

Output:
2: 2

3: 3

4: 2

5: 5

6: 2 3

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100000: 2 5