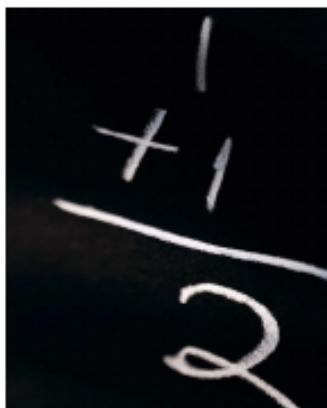


6198 A Terribly Grimm Problem

Grimm's conjecture states that to each element of a set of consecutive composite numbers one can assign a distinct prime that divides it.



For example, for the range 242 to 250, one can assign distinct primes as follows:

242	243	244	245	246	247	248	249	250
2	3	61	7	41	13	31	83	5

Given the lower and upper bounds of a sequence of composite numbers, find a distinct prime for each. If there is more than one such assignment, output the one with the smallest first prime. If there is still more than one, output the one with the smallest second prime, and so on.

Input

There may be several data sets.

Each data set will consist of a single line with two integers, L and H ($4 \leq L < H \leq 10^{10}$). It is guaranteed that all the numbers in the range from $L \dots H$, inclusive, are composite.

The input will end with a line with two 0's.

Output

For each data set, print a single line containing the set of unique primes, in order, separated by a single space.

Sample Input

```
242 250
8 10
0 0
```

Sample Output

```
2 3 61 7 41 13 31 83 5
2 3 5
```