Project Euler #130: Composites with prime repunit property

This problem is a programming version of Problem 130 from projecteuler.net

A number consisting entirely of ones is called a repunit. We shall define $R(k)$ to be a repunit of length k; for example, $R(6) = 111111$.

Given that i is a positive integer and $\gcd(i, 10) = 1$, it can be shown that there always exists a value, k, for which $R(k)$ is divisible by i, and let $A(i)$ be the least such value of k; for example, $A(7) = 6$ and $A(41) = 5$.

You are given that for all primes, $p > 5$, that $p - 1$ is divisible by $A(p)$. For example, when $p = 41$, $A(41) = 5$, and 40 is divisible by 5.

However, there are rare composite values for which this is also true; the first five examples being 91, 259, 451, 481, and 703.

Given L and R, print all composite values i in the interval $[L, R]$ for which $\gcd(i, 10) = 1$ and $i - 1$ is divisible by $A(i)$.

Input Format

The input contains consists of one line containing two integers L and R separated by a space.

Constraints

$R - L \leq 1500000$
$2 \leq L \leq R$

In files #01-#05: $R \leq 10000$
In files #06-#10: $R \leq 1500000$
In files #11-#25: $R \leq 10^{12}$

Output Format

Output all composite values i in the interval $[L, R]$ for which $\gcd(i, 10) = 1$ and $i - 1$ is divisible by $A(i)$, each in a single line.

Sample Input

```
2 1000
```

Sample Output

```
91
259
451
481
703
```

Explanation

$A(91) = 6$ and 90 is divisible by 6.