Perfect Powers

Given a positive integer n, determine the minimum number of digits that must be removed (without reordering) so that the remaining digits form a perfect power.

A perfect power is an integer that can be expressed as x^k, where x > 1 and k > 1.

If multiple subsequences yield the same minimum number of deletions, output all solutions in ascending numerical order. For each solution, print:

```
<subsequence> <no_digits_removed>
```

If no subsequence forms a perfect power, output -1.

Input Format

A single integer n

Constraints

(0 ≤ n ≤ 10^12)

Output Format

For each valid subsequence with minimum deletions, print one line in the format:

```
<subsequence> <no_digits_removed>
```

If no solution exists, print -1.
Subsequence numbers must be in ascending order.

Sample Input 0

```
8314
```

Sample Output 0

```
81 2
```