

# 2847. Smallest Number With Given Digit Product

## Description

Given a **positive** integer `n`, return *a string representing the **smallest positive** integer such that the product of its digits is equal to `n`, or `"-1"` if no such number exists*.

### Example 1:

**Input:** `n = 105`

**Output:** `"357"`

**Explanation:** `3 * 5 * 7 = 105`. It can be shown that 357 is the smallest number with a product of digits equal to 105. So the answer would be `"105"`.

### Example 2:

**Input:** `n = 7`

**Output:** `"7"`

**Explanation:** Since 7 has only one digit, its product of digits would be 7. We will show that 7 is the smallest number with a product of digits equal to 7. Since the product of numbers 1 to 6 is 1 to 6 respectively, so `"7"` would be the answer.

### Example 3:

**Input:** `n = 44`

**Output:** `"-1"`

**Explanation:** It can be shown that there is no number such that its product of digits is equal to 44. So the answer would be `"-1"`.

### Constraints:

- `1 <= n <= 1018`

