1808. Maximize Number of Nice Divisors

Description

You are given a positive integer `primeFactors`. You are asked to construct a positive integer `n` that satisfies the following conditions:

- The number of prime factors of `n` (not necessarily distinct) is **at most** `primeFactors`.
- The number of nice divisors of `n` is maximized. Note that a divisor of `n` is **nice** if it is divisible by every prime factor of `n`. For example, if `n = 12`, then its prime factors are `[2,2,3]`, then `6` and `12` are nice divisors, while `3` and `4` are not.

Return *the number of nice divisors of* `n`. Since that number can be too large, return it **modulo** $10^9 + 7$.

Note that a prime number is a natural number greater than `1` that is not a product of two smaller natural numbers. The prime factors of a number `n` is a list of prime numbers such that their product equals `n`.

Example 1:

```
Input: primeFactors = 5
Output: 6
Explanation: 200 is a valid value of n.
It has 5 prime factors: [2,2,2,5,5], and it has 6 nice divisors: [10,20,40,50,100,200].
There is not other value of n that has at most 5 prime factors and more nice divisors.
```

Example 2:

```
Input: primeFactors = 8
Output: 18
```

Constraints:

- $1 <= primeFactors <= 10^9$