Hard **Codewriting** **4000**

You have an array `nums`. We determine two functions to perform on `nums`. In both cases, `n` is the length of `nums`:

- f_i`(nums) = nums[0] · nums[1] · ... · nums[i - 1] · nums[i + 1] · ... · nums[n - 1]`. (In other words, f_i`(nums)` is the product of all array elements except the i_{th}f.)
- `g(nums) =` f_0`(nums) +` f_1`(nums) + ... +` f_{n-1}`(nums)`.

Using these two functions, calculate all values of `f`modulo the given `m`. Take these new values and add them together to get `g`. You should return the value of `g` modulo the given `m`.

Example

For `nums = [1, 2, 3, 4]` and `m = 12`, the output should be `productExceptSelf(nums, m) = 2`.

The array of the values of `f` is: `[24, 12, 8, 6]`. If we take all the elements modulo `m`, we get: `[0, 0, 8, 6]`. The sum of those values is `8 + 6 = 14`, making the answer `14 % 12 = 2`.

Input/Output

- **[execution time limit] 20 seconds (swift)**
- **[input] array.integer nums**

  Guaranteed constraints:
  $2 \le$ `nums.length` $\le 2 \cdot 10^5$,
  $1 \le$ `nums[i]` ≤ 100.

- **[input] integer m**

  Guaranteed constraints:
  $2 \le m \le 10^5$.

- **[output] integer**

[Swift3] Syntax Tips

```
// Prints help message to the console
// Returns a string
func helloWorld(name: String) -> String {
    print("This prints to the console when you Run Tests");
    return "Hello, " + name;
}
```