Product of tuple

[Award] **10 pts**

[Category] **Math**

Let *S*(*p*, *n*) denote the number of *n*-tuples of positive integers whose product is no larger than *p*. For example, *S*(4, 2) = 8, as there are eight 2-tuples (1, 1), (1, 2), (1, 3), (1, 4), (2, 1), (2, 2), (3, 1), (4, 1) meet the condition. You are also given *S*(6, 4) = 39, *S*(10, 10) = 571, *S*(100, 100) mod 1000000007 = 959337187.

Find S(1012, 1012) mod 1000000007.

Thanks to **baihacker** for the idea.

[Answer] **458443302**