Product of phi

[Award] **8 pts**

[Category] **Math**

Given two positive integers *n* and *k*, define function



where  is [Euler's totient function](https://en.wikipedia.org/wiki/Euler%27s_totient_function).

For example, *T*(2,3) = ϕ(1×1)ϕ(1×2)ϕ(1×3)ϕ(2×1)ϕ(2×2)ϕ(2×3)ϕ(3×1)ϕ(3×2)ϕ(3×3) = 192. And you are given *T*(10,10) mod 1000000007 = 7103300.

Find T(107, 107) mod 1000000007.

Thanks to **C\_K\_Yang** for the idea.

[Answer] **248763484**