Dice

Time limit: *1000 ms*
Memory limit: *256 MB*

Let's choose an integer t uniformly randomly from 1 to k.

Now let's roll t standard six-sided dice.

What is the probability that the sum of values rolled on those dice is exactly n?

Standard input

The first line contains two integers n and k.

Standard output

It can be proven, that the answer can be represented as a rational number P/Q, where $Q \mod 998244353 \neq 0$

Output one value, $P * Q^{-1} \mod 998244353$.

Constraints and notes

- $1 \leq n, k \leq 2^{23}$,

Input	Output	Explanation
1 1	166374059	
2 3	341991121	There are 3 cases: t = 1: the only way to obtain sum 2 is to roll 2 (with probability $1/6$). t = 2: the only way to obtain sum 2 is to roll two ones (with probability $1/36$). t = 3: there is no way to obtain the sum equal 2. So the probability is equal to $1/3 * (1/6 + 1/36 + 0) = 7/108$