Problem A. Factorial Under Modulo

Time limit	1000 ms
Mem limit	262144 kB
OS	Windows

Given a large number n, determine efficiently the factorial of n.

Since the answer might be very large, you should output the answer modulo $998,244,353$.

Input

The input contains only one integer n, $(1 \le n \le 10^5)$.

Output

Print a single integer — factorial of n under modulo.

Examples

Input	Output
45	991610752

Input	Output
2399	201967083