

Problem C. Camp

Input file: *standard input*
 Output file: *standard output*
 Time limit: 1 second
 Memory limit: 1024 mebibytes

There are a total of m universities in Jageria, and we plan to invite $2n$ students to the Jagerian training camp. Each student is affiliated with one of the m universities. During the training camp, the students will be accommodated in n twin rooms, meaning that each room will be assigned to exactly two students.

To promote diverse interactions among the students, our goal is to achieve a “good room assignment”. A room assignment is considered good if and only if the students sharing the same room come from different universities.

Here, we are wondering how often a good room assignment is feasible. There are m^{2n} possible sequences of universities: the university of the first, second, \dots , $2n$ -th student. Please find the number of sequences such that a good room assignment exists.

Actually, we don’t yet know the number n : how many rooms we can provide. Therefore, for each $n = 1, 2, \dots, m$, please find for how many sequences of universities there is a good room assignment.

Since the answers may be huge, print them modulo 998 244 353.

Input

The input is a single line containing a single integer m : the number of universities ($1 \leq m \leq 2 \cdot 10^5$).

Output

Print m lines. In the i -th line, you should output the answer for $n = i$.

Examples

<i>standard input</i>	<i>standard output</i>
3	6 54 510
5	20 540 14300 370300 9454620