C. Camp room assignment

Problem ID: C

In the NTU country, there are a total of m universities, and we plan to invite $2n$ students to a 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 to which each student belongs, and please find for how many of them there is a good room assignment.

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

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

Input

The input is a single line containing an integer m.

- $1 \leq m \leq 2 \times 10^5$

Output

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

Sample Input 1	Sample Output 1
3	6 54 510

Sample Input 2	Sample Output 2
5	20 540 14300 370300 9454620

Sample Input 3	Sample Output 3
20	380 158460 63889400 636003875 443532759 163564701 433390846 160318339 979712600 445802634 862134704 374397421 898644169 181404073 884138261 856576908 608198482 349239556 724235122 812173715