Problem D
Happy Teachers' Day

Problem Description

A month ago, we have just had the Happy Teachers' Day for commemorating the great teacher—Confucius. Confucius lived in the period of the Warring States, and although mathematics is not very popular at that time, he still had some interesting problems for his students such as Zi-Gong and Zi-Lu. One of those problems was to consider N different balls, and ask us to calculate in how many ways we can distribute them into nonempty groups. For example, when $N = 3$, we have 3 balls A, B, C, and then there are exactly five different ways to distribute them into groups: $\{ABC\}, \{A, BC\}, \{B, AC\}, \{C, AB\}$, and $\{A, B, C\}$. All of us know Confucius' motto: "Teaching all comers without discrimination." No matter who you are, could you solve the above problem?

Technical Specifications

1. The number of test cases would be smaller than or equal to 100.

2. The number of balls N would satisfy $1 \le N \le 2000$.

Input Format

Each case consists of a line with an integer N, denoting the number of balls.

Output Format

For each case, output in a line the number of ways to distribute the balls. If the number of ways, say x, is at least 9999997, output x modulo 9999997 instead.

Sample Input

```
1
2
3
40
```

Sample Output

```
1
2
5
5563197
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