

# Fast Factorial Calculator 2

---

**Time limit:** 0.6s    **Memory limit:** 64M

---

**d** is not in a good mood today, so he has decided to torment people. He wants you to write a large factorial calculator. More specifically, he wants you to calculate very *very* **very** large factorials. He wishes you luck.

## Input Specification

---

The first line of input will contain the integer  $N$ ,  $0 \leq N \leq 1\,000$ , the number of cases to follow.

The next  $N$  lines will contain an integer  $n$ , such that  $0 \leq n \leq 2^{63}$ , whose factorial you are to calculate.

## Output Specification

---

For every integer  $n$ , you are to output  $n! \pmod{2^{32} - 5}$ .

## Sample Input

---

```
2
5
13
```

## Sample Output

---

```
120
1932053509
```