Problem ALGEBRATEAM: Algebraic Teamwork

The great pioneers of group theory and linear algebra want to cooperate and join their theories. In group theory, permutations – also known as bijective functions – play an important role. For a finite set A, a function $\sigma : A \to A$ is called a permutation of A if and only if there is some function $\rho : A \to A$ with

$$\sigma(\rho(a)) = a \text{ and } \rho(\sigma(a)) = a \quad \text{for all } a \in A.$$

The other half of the new team – the experts on linear algebra – deal a lot with idempotent functions. They appear as projections when computing shadows in 3D games or as closure operators like the transitive closure, just to name a few examples. A function $p : A \to A$ is called idempotent if and only if

$$p(p(a)) = p(a) \quad \text{for all } a \in A.$$

To continue with their joined research, they need your help. The team is interested in non-idempotent permutations of a given finite set A. As a first step, they discovered that the result only depends on the set's size. For a concrete size $1 \le n \le 10^5$, they want you to compute the number of permutations on a set of cardinality n that are **not** idempotent.

Input

The input starts with the number $t \le 100$ of test cases. Then t lines follow, each containing the set's size $1 \le n \le 10^5$.

Output

Output one line for every test case containing the number modulo $1\,000\,000\,007 = (10^9 + 7)$ of **non**-idempotent permutations on a set of cardinality n.

Sample Input 1

```
3
1
2
2171
```

Sample Output 1

```
0
1
6425
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