Euler Totient Function

Time Limit: 1 Second
Memory Limit: 2048 MB

Given an integer n, compute the number of integers in the range $\{1, \ldots, n-1\}$ that are coprime with n.

1 Input Format

The input consists of multiple test cases. The first line contains an integer T, the number of test cases ($1 \leq T \leq 10^5$). Each test case consists of a single integer n ($1 \leq n \leq 10^6$).

2 Output Format

For each test case, output the number of integers in $\{1, \ldots, n-1\}$ that are coprime with n.

3 Example

3.1 Input

Sample Inputs

```
2
10
15
```

3.2 Output

Sample Outputs

```
4
8
```