

Problem B: Factorial

$n! = 1 \times 2 \times 3 \times \dots \times n$. Given n , find the last non-zero digit of $n!$.

Input

The first line of input will contain the number of test cases. Each test case consists of a single line containing n , $1 \leq n \leq 1\,000\,000$.

Output

For each test case output a single line with the last non-zero digit of $n!$.

Sample input

```
10
1
2
3
4
5
6
7
8
9
10
```

Sample output

```
1
2
6
4
2
2
4
2
8
8
```

Time limit: 5 seconds