CMPUT 274 - Tangible Computing
Morning Problem: Distinct Triplets

Description

A triplet of points is called **distinct** if there exists no other triplet containing the same points. For example, the two triplets (a, b, c) and (c, b, a) are not **distinct** while the two triplets (a, b, c) and (b, c, d) are in fact **distinct**.

You are given a single integer n, the total number of points, your task is to determine the maximum number of **distinct** triplets for n points.

Input

Input contains a single integer n ($1 \leq n \leq 1,000$) - the number of points.

Output

Output a single line containing the maximum number of **distinct** triplets in n points.

Sample Input 1

```
3
```

Sample Output 1

```
1
```

Explanation

With $n = 3$ it is only possible to create one distinct triplet of points as all possible triplets are permutations of each other.

Sample Input 2

```
4
```

Sample Output 2

```
4
```

Explanation

One possible maximal selection of distinct triplets is (3, 1, 2), (4, 2, 3), (1, 3, 4), (4, 2, 1). All other triplets are permutations thereof.

Sample Input 3

```
673
```

Sample Output 3

```
50577296
```