PIZZA

In this problem you are given a pizza.You have to find the maximum number of slices after cutting the pizza **exactly N** times.

Note that it is not necessary to make each slice equal.

For example if **N = 1** then we can make maximum 2 slices. Figure 1 show this.

Figure: 1

Figure: 2

If **N = 2** then we can make maximum 4 slices. Figure 2 show this.

Input

Input starts with an integer **T (1<=10^6)**, denoting the number of test cases.

Each case contains an integer **N (1 ≤ N ≤ 10^9)** denoting the number of times you can cut the pizza.

Output

For each case of input, output only one integer the **maximum number of slices**.

Example

Input:

```
2

1
```

2

Output:

2

4