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LIVE EVENTS

## ● The Castle Gate

Attempted by: **4319** / Accuracy: **82%** / Maximum Score: **10** / ★★★★★☆ 96 Votes

Tag(s): Bit manipulation, Very-Easy

PROBLEM

EDITORIAL

MY SUBMISSIONS

Gudi, a fun loving girl from the city of Dun, travels to Azkahar - a strange land beyond the mountains. She arrives at the gates of Castle Grey, owned by Puchi, the lord of Azkahar to claim the treasure that it guards. However, destiny has other plans for her as she has to move through floors, crossing obstacles on her way to reach the treasure.

The gates of the castle are closed. An integer  $N$  is engraved on the gates. A writing on the wall says

Tap the gates as many times as there are **unordered** pairs of distinct integers from 1 to  $N$  whose bit-wise **XOR** does not exceed  $N$ .

Help her find the number of the times she has to tap.

### Input:

First line contains an integer  $T$ ,  $T$  testcases follow.

Each testcase consists of an integer  $N$ .

### Output:

Print the answer to each testcase in a newline.

### Constraints:

$$1 \leq T \leq 100$$

$$2 \leq N \leq 2000$$

SAMPLE INPUT



```
3
4
6
8
```

SAMPLE OUTPUT



```
3
12
21
```

### Explanation

For N=4, pairs are (1,2) , (1,3) and (2,3)

**Time Limit:** 2.0 sec(s) for each input file.

**Memory Limit:** 256 MB

**Source Limit:** 1024 KB

**Marking Scheme:** Marks are awarded when all the testcases pass.

**Allowed Languages:** C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Scala 2.11.8, Swift, Visual Basic

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## CODE EDITOR

Enter your code or [Upload your code](#) as file.

保存

C (gcc 4.8.2)



```
1 #include <stdio.h>
2
3 int main()
4 {
5     int t;int i,j;
6     int n;
7     int count;
8     scanf("%d",&t);
9     while(t--) {
10         count=0;
11         scanf("%d",&n);
12         for(i=1;i<=n;i++)
13             for(j=i+1;j<=n;j++)
14                 if((i^j)<=n)
15                     count++;
16         printf("\n%d",count);
17     }
18
19
20
21     return 0;
22 }
23
```

1:1

☒ カスタム入力を実行する

コンパイル&テスト

提出する

💡 オートコンプリートを表示するにはCtrl-spaceを押してください。

コードテーブルを装備しています

Your Rating: ★★★★★

👍 Like 0

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## COMMENTS



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★★★★☆ 27 Votes

### Samu And Her Birthday...

Attempted By: **728** / Accuracy: **54**

★★★★☆ 333 Votes

### Chandan And Balanced...

Attempted By: **355** / Accuracy: **62**

★★★★☆ 8 Votes

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