

Till One

Jojo has numbers with the following formula:

- F(N) when N is an odd number is F(N-1) + F(N+1)
- F(N) when N is an even number is F(N/2)
- F(1) = 1

Help Jojo find the N-th number using the formula!

Format Input

The first line input contains T, the number of testcases. For each testcase only consists of 1 line. The line consists of one integer, N, the number you must find its value using the formula.

Format Output

For each test case, output "Case #X: Y", where X represents the number of the test case and Y indicates the value of the N-th number.

Constraints

- $1 \le T \le 10$
- $1 \le N \le 10^8$

Sample Input (standard input)

2 7 133

Sample Output (standard output)

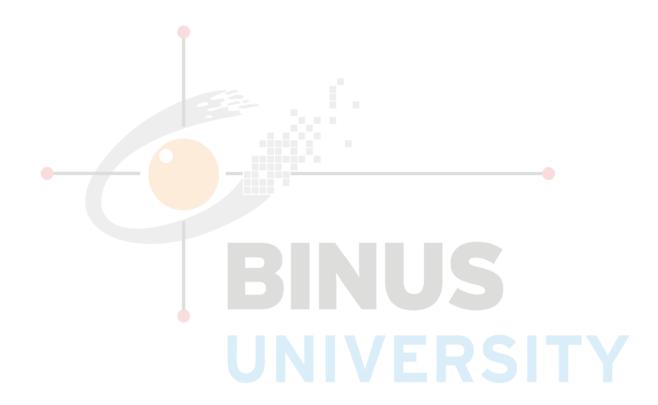
Case #1: 3 Case #2: 17

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Note

Even though it is not stated explicitly, you should know by now that excessive space / newline are treated as **WRONG ANSWER**.



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Till One

Jojo memiliki serangkaian angka dengan rumus berikut:

- F(N) ketika N adalah angka ganjil adalah F(N-1) + F(N+1)
- F(N) ketika N adalah angka genap adalah F(N/2)
- F(1) = 1

Bantulah Jojo dalam mencari angka ke N dengan menggunakan rumus tersebut!

Format Input

Input baris bertama berisi T, banyaknya jumlah testcases. Untuk setiap testcase hanya terdiri dari 1 baris. Baris tersebut terdiri dari sebuah angka N, angka yang harus kamu cari nilainya menggunakan rumus tersebut.

Format Output

Untuk setiap test case, hasilkan "Case # X: Y", di mana X menunjukkan nomor kasus pengujian dan Y yang menunjukkan nilai dari angka ke N.

Constraints

- $1 \le T \le 10$
- $1 < N < 10^8$

Sample Input (standard input)

2 7 133

Sample Output (standard output)

Case #1: 3 Case #2: 17

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Note

Meskipun tidak dinyatakan secara eksplisit, Anda harus tahu sekarang bahwa ruang / baris yang berlebihan itu diperlakukan sebagai **WRONG ANSWER**.

