

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 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 is the test case number starting at 1 and Y indicates the value of the N-th number.

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

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)
- \bullet 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 pertama berisi T, banyaknya jumlah testcases. Untuk setiap testcase, terdapat bilangan bulat N, angka yang harus kamu cari nilainya menggunakan rumus tersebut.

Format Output

Untuk setiap test case, hasilkan "Case # X: Y", di mana X adalah nomor test case mulai dari 1 dan Y yang menunjukkan nilai dari angka ke N.

Constraints

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

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**.



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