Input:

First line of input contains a single number T. T test cases follows. Each case has a single number N which indicates the Nth second.

T <= 10000

1 <= N <= 1016

Output:

For each test case, print ans as the format “Case x: y z” without quotation. Here, **x** indicates the case number and **y, z** indicates the desired results. See sample input output for better understanding.

|  |  |
| --- | --- |
| Sample input | Sample output |
| 4  5  21  63  1326509874132650 | Case 1: 3 2  Case 2: 4 12  Case 3: 5 30  Case 4: 18 948498053512337 |