2008-03:Fibonacci numbers

Time Limit: 30 sec

Description

Given an unsigned integer *n*, compute the *n-th* Finonacci number F_n according to the equation:

$$\begin{bmatrix} 0 & 1 \\ 1 & 1 \end{bmatrix}^n = \begin{bmatrix} F_{n-1} & F_n \\ F_n & F_{n+1} \end{bmatrix}, n \geq 1$$

Please put the result into a 4 bytes unsigned integer. If F_n overflows, your program should report this issue.

Input

Each line contains an integer number, n.

Output

- For each case, the first line is a prompt as following: “case 1:”. The next line is the answer.
- Print a word, “overflow”, if the *n* is too large.
- The last line of each case is an empty line, even if the result is an overflow.

Sample Input	Sample Output
1 25 48	case 1: 1 case 2: 75025 case 3: overflow
