

Awesome Childhood



Childhood is the best time of anyone. We all time miss those awesome moments. Do you remember the winter morning of school day? I can remember! My mom awoken me to go school but I acted like "I don't listen anything!"

Can you remember the feelings when your mom is beating your siblings and you are the next!!! Ahh... those days!!!

Let's play a childhood game. You must be feel nostalgic.

Think a number (N) on your mind. Borrow that number from your friend. Add them and you have now $2N$. I give you 10236 (let G). Add G with $2N$. Then equally divide the whole number $[(2N+G)/2]$. One part keep on your mind and another part through away. Now it's time to back the borrowed part to your loving friend $[(2N+G)/2]-N$. Finally you have 5118!

Think what a genius I am! I know the remaining number! Can you do so?

Input

First of all input an integer T ($0 < T < 10000$). T denotes the number of test cases to follow. For each case you'll given an integer G ($1 < G \leq 2^{32}$). Where G is multiple of 2.

Output

For each test case print one line of the form "Case T: R". Where T is the case number and R is the result according to above description. See sample I/O for more clear.

Example

Input:

2
10236
172

Output:

Case 1: 5118
Case 2: 86