

3 Vertices 0 TSP

Run-time Limit: 1 second

Memory Limit: 64 MB

DESCRIPTION

Yesterday, Mr. Blangkon was studying about graph theory. He felt challenged with the case of traveling salesman problem. At that time, he only had a complete graph with three vertices where each edge of the graph is given the weight of an integer in range $-N$ to N .

Because of his curiosity, Mr. Blangkon made a program to solve that case with the output of the program is the shortest route after visiting all vertices back to the initial vertex. After that, he tries to modify the weights of each edge to obtain different outputs. Apparently he just wanted the output of the program is zero.

Since Mr. Blangkon chose a high value of N , he found it very difficult to determine the value on each edge because of the considerable possibilities. Therefore, he asks for your help to determine the number of possibilities to fill the weights on each edge so that the output matches to what he wants.

INPUT FORMAT

The first line contains an integer T ($1 \leq T \leq 1000$), the number of case. Then follow T lines, each line contains an integer N ($1 \leq N \leq 10^{11}$).

OUTPUT FORMAT

For each case, output “Case #X: Y” where X is the case number starts from 1, and Y is the number of possibilities to fill the weights on each edge. Because the number can be very large, print the last digit only.

INPUT EXAMPLE

```
3
1
32
100
```

OUTPUT EXAMPLE

```
Case #1: 7  
Case #2: 9  
Case #3: 1
```