

Data Types

Jojo just learnt about 2 data types in C which is integer and long long. He know that at most an integer can hold at most an absolute value of 2147483647 and long long at most 9223372036854775807. Unfortunately, he sometimes forget the maximum value that can be hold by integer or long long, So he ask you to help him.

Format Input

The first line contain an integer T represent how many number that he want to check. The next T lines consist of a number that he want to check what is the most efficient memory data type to hold X.

Format Output

Consist of T lines. Each line output have format "Case #A : B" where B represent test case number and A is a string between "integer" or "long long".

Constraints

$-9,223,372,036,854,775,807 \leq x \leq 9,223,372,036,854,775,807$

Sample Input	Sample Output
5 1 2 3 2147483649 9223372036854775807	Case #1: integer Case #2: integer Case #3: integer Case #4: long long Case #5: long long