Problem A. Ultra Weak Goldbach's Conjecture

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	256 megabytes

In number theory, Goldbach's conjecture states that every even integer greater than 2 is the sum of two prime numbers. A weaker version of this conjecture states that every odd number greater than 5 is the sum of three prime numbers.

Here is an ultra weak version of Goldbach's conjecture: every integer greater than 11 is the sum of **six** prime numbers. Can you help to verify or disprove this conjecture?

Input

The first line of the input gives the number of test cases, T ($1 \leq T \leq 200$). T test cases follow.

Each test case contains one integer N ($1 \leq N \leq 10^{12}$).

Output

For each test case, output "`Case x:`" first, where `x` is the test case number (starting from 1). If the solution exist, output six prime numbers separated by spaces; otherwise output "IMPOSSIBLE" (quotes for clarity) when the solution does not exist. When the solution exists, any valid solution is acceptable.

Example

standard input	standard output
5 6 13 200 570 680	Case 1: IMPOSSIBLE Case 2: 2 2 2 2 2 3 Case 3: 43 29 31 29 31 37 Case 4: 97 101 103 107 101 61 Case 5: 137 137 107 113 89 97