

# Boss Baby

Boss Baby is the boss of all babies. He has been exploring prime numbers lately, and new recently made a conjecture resembling one of Goldbach's conjectures. Boss baby's conjecture is that any number greater than or equal 10 can be expressed as the sum of a prime, square of two prime. It's very easy work for him but he is busy to stop the dastardly plot of the CEO of Puppy Co. He wants your help verify his conjecture for small numbers.

Note: 1 is not a prime number.

## Input:

The first line of the input contains an integer  $T(T \leq 10^6)$  denoting the number of test cases. Each test case contain Input will consist of a series of numbers greater than 10 and less than  $10^6$ , one per line

## Output:

For each case, print the case number and print 3 primes  $P_1, P_2, P_3$  on a line, where  $P_1 + P_2^2 + P_3^2$  is equal to the number from the input. ( $P_1, P_2, P_3$  must be print in sort order) If no such primes exist, print "0 0 0" instead (quotes for clarity). If there are multiple triplets of primes that satisfy the equation, print the least one in softed order.

## Sample:

Input	Output
3	Case 1: 2 3 5
18	Case 2: 2 3 3
20	Case 3: 3 3 5
23	

Note:

For second Case 20

$2,3,3(2+3^2+3^2) = 20$  and  $2,3,7(2^2+3^2+7) = 20$  is possible  
but  $2,3,3$  is the least one