Problem Twin Primes

Time Limit 3 second

Problem

Twin primes are pairs of primes of the form (p,p+2). The term "twin prime" was coined by Paul Stckel (1892-1919). The first few twin primes are (3, 5), (5, 7), (11, 13), (17, 19), (29, 31), (41, 43). In this problem you are asked to find out the S-th twin prime pair where Sis an integer that will be given in the input.

Input

The input will contain less than 10001 lines of input. Each line contains an integers $S(1 \leq S \leq 100000)$, which is the serial number of a twin prime pair. Input file is terminated by end of file.

Output

For each line of input you will have to produce one line of output which contains the S-th twin prime pair. The pair is printed in the form (p1,<space>p2). Here <space> means the space character (ASCII32) . You can safely assume that the primes in the 100000-th twin prime pair are less than 20000000.

Sample Input 1	Sample Output 1
1 2 3 4	(3, 5) (5, 7) (11, 13) (17, 19)