F Alternate Task

Input: Standard Input
Output: Standard Output

Little Hasan loves to play number games with his friends. One day they were playing a game where one of them will speak out a positive number and the others have to tell the sum of its factors. The first one to say it correctly wins. After a while they got bored and wanted to try out a different game. Hassan then suggested about trying the reverse. That is, given a positive number **S**, they have to find a number whose factors add up to **S**. Realizing that this task is tougher than the original task, Hasan came to you for help. Luckily Hasan owns a portable programmable device and you have decided to burn a program to this device. Given the value of **S** as input to the program, it will output a number whose sum of factors equal to **S**.

Input

Each case of input will consist of a positive integer **S<=1000.** The last case is followed by a value of **0**.

Output

For each case of input, there will be one line of output. It will be a positive integer whose sum of factors is equal to **S**. If there is more than one such integer, output the largest. If no such number exists, output **-1**. Adhere to the format shown in sample output.

Sample Input

Sample Input	Output for Sample Input
1 102 1000 0	Case 1: 1 Case 2: 101 Case 3: -1

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