It is easy to see that for every fraction in the form $\frac{1}{k}$ $(k > 0)$, we can always find two positive integers x and y, $x \geq y$, such that:

$$\frac{1}{k} = \frac{1}{x} + \frac{1}{y}$$

Now our question is: can you write a program that counts how many such pairs of x and y there are for any given k?

Input

Input contains no more than 100 lines, each giving a value of k $(0 < k \leq 10000)$.

Output

For each k, output the number of corresponding (x, y) pairs, followed by a sorted list of the values of x and y, as shown in the sample output.

Sample Input

```
2
12
```

Sample Output

```
2
1/2 = 1/6 + 1/3
1/2 = 1/4 + 1/4
8
1/12 = 1/156 + 1/13
1/12 = 1/84 + 1/14
1/12 = 1/60 + 1/15
1/12 = 1/48 + 1/16
1/12 = 1/36 + 1/18
1/12 = 1/30 + 1/20
1/12 = 1/28 + 1/21
1/12 = 1/24 + 1/24
```