

## 12031 Sum of Four Squares

You will be given an integer  $n$ , and you will have to express as summation of four square-numbers.

For example 30 can be written as summation of four squares in the following way:

$$30 = 4 * 4 + 3 * 3 + 2 * 2 + 1 * 1$$

If a number can be expressed as summation of four squares in more than one ways, any one of them will do. A square is a number whose square root is also an integer.

### Input

Input starts with an integer  $T$  ( $\leq 120000$ ), denoting the number of test cases. Each case contains an integer  $n$  ( $0 \leq n < 10^{17}$ ) in a line.

**Note:** As the size of the input file is large, so use faster I/O functions like `scanf()`, `printf()`.

### Output

For each case, print a line containing four integer numbers  $a, b, c, d$  such that

$$n = a^2 + b^2 + c^2 + d^2$$

If the number cannot be expressed as summation of four squares then you should print 'Impossible.' instead.

### Sample Input

```
3
30
2
0
```

### Sample Output

```
5 2 0 1
1 0 0 1
0 0 0 0
```