

## 4421 Homework

Homework to primary school children often becomes primary home engagement for parents. In order to lessen the burden of parents a software firm proposes to develop a package that includes solutions to problems on Arithmetic, which are commonly given as homework. As a programmer of the software firm you are required to write a program to solve such a problem.

The problem is to add triplets of integers from a given set  $S$  of  $n$  ( $\leq 30$ ) distinct positive integers and determine all  $K$  subsets  $\{a\ b\ c\ d\ e\ f\}$  of six distinct elements in  $S$  so that the sum of three elements in the subset, say  $(a + b + c)$ , is equal to the sum  $(d + e + f)$  of the other three.

For example, given the set  $S = \{1001\ 2001\ 3001\ 4001\ 5001\ 6001\ 7001\}$  there exists exactly three subsets ( $K = 3$ ):  $\{1001\ 2001\ 3001\ 4001\ 5001\ 7001\}$ ,  $\{1001\ 2001\ 3001\ 5001\ 6001\ 7001\}$  and  $\{1001\ 3001\ 4001\ 5001\ 6001\ 7001\}$  each one of which satisfies the stated condition.

### Input

Input may contain multiple test cases. Each test case contains two lines.

The first line gives two integers:  $n$ , the total number of elements in  $S$  and  $I$ , an indicator that indicates the output format. The indicator  $I$ , is either '0' or '1'.

The second line gives  $n$  elements of  $S$  in an arbitrary order.

Input terminates with an input '0' as the first input for a test case.

### Output

For each test case, print output in either of two formats.

If the indicator  $I$  is '0' then print only the total number  $K$  of subsets in one line.

Otherwise the line is followed by  $K$  more lines each containing elements of a subset.

The elements of each subset appear in ascending order and the subsets appear in lexicographic order.

### Sample Input

```
6 0
50 22 87 180 65 115
7 1
1001 2001 3001 4001 5001 6001 7001
8 0
12 20 35 38 46 23 18 58
0
```

### Sample Output

```
0
3
1001 2001 3001 4001 5001 7001
1001 2001 3001 5001 6001 7001
1001 3001 4001 5001 6001 7001
4
```