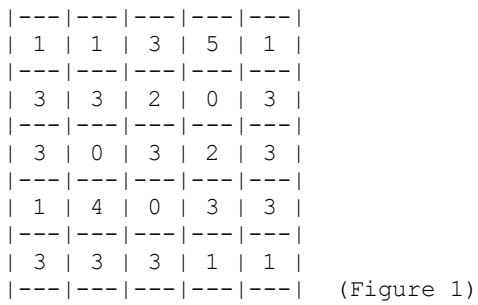
Problem 3: The Primes



1	1	3	5	1
3	3	2	0	3
3	0	3	2	3
1	4	0	3	3
3	3	3	1	1

(Figure 1)

Figure 1 shows a square. Each row, each column and the two diagonals can be read as a five digit prime number. The rows are read from left to right. The columns are read from top to bottom. Both diagonals are read from left to right. Using the data in the `INPUT.TXT` file, write a program that constructs such squares.

- The prime numbers must have the same digit sum (11 in the example).
- The digit in the top left-hand corner of the square is pre-determined (1 in the example).
- A prime number may be used more than once in the same square.
- If there are several solutions, all must be presented.
- A five digit prime number cannot begin with zeros, ie 00003 is NOT a five digit prime number.

Input Data

The program reads data from the `INPUT.TXT` file. First the digit sum of prime numbers and then the digit in the top left-hand corner of the square. The file contains two lines. There will always be a solution to the given test data. In our example:

```
11
1
```

Output Data

In the `OUTPUT.TXT` file, write five lines for each solution found, where each line in turn consists of a five digit prime number. The above example has 3 solutions which means that the `OUTPUT.TXT` file contains the following (the empty lines are optional):

```
11351
14033
30323
53201
13313

11351
33203
30323
14033
33311

13313
13043
32303
50231
13331
```