

Write a command line program called **numadd** that finds 3 numbers to a sum.

The program identifies 3 numbers *abc*, *def* and *ghi*, the sum of which equals the user typed *number*. The digits of the 3 identified numbers are all different (no digit appears twice).

Example:

```
abc
def
ghi
----
number
```

Bear in mind:

- *Speed does matter.* Display at the end, the time required to run the program (in seconds).
- Allowed typed number must have 3 or 4 digits. User validation required.
- The user has the option to specify, if only a solution is shown or all of them.
- For each number the total existing solutions are displayed. Show a label if no solution exists.
- The program must look as in the following screenshots:

```
Find 3 numbers to a sum
=====

This program identifies 3 numbers abc, def and ghi,
the sum of which equals the user typed number.
The digits of the 3 identified numbers
are all different (no digit appears twice).

      Example abc
            def
            ghi
            ---
            number

Type a number with 3 or 4 digits: 1893

Show all solutions (j/n) ? n

      1. Solution  430
                  571
                  892
                  ----
                  1893

---> Total solutions found: 1512

Program runtime (CPU clock-time): 0.002 seconds.
```

```
Type a number with 3 or 4 digits: 10
..... Number must have 3 or 4 digits.
Type your number again: 189

Show all solutions (j/n) ? j

For this number there is no solution!

Program runtime (CPU clock-time): 0.001 seconds.
```

```
Type a number with 3 or 4 digits: 1893

Show all solutions (j/n) ? j
```

```
      1893

1509. Solution  759
                324
                810
                ----
                1893

1510. Solution  759
                824
                310
                ----
                1893

1511. Solution  859
                324
                710
                ----
                1893

1512. Solution  859
                724
                310
                ----
                1893

---> Total solutions found: 1512

Program runtime (CPU clock-time): 0.013 seconds.
```

Solution to be returned within 1 hour after start. Google usage is allowed. Good luck!