

Specialized Four-Dig

Time Limit = 1s, Memory Limit = 32768KB

Find and list all four-digit numbers in decimal notation that have the property that the sum of its four digits equals the sum of its digits when represented in hexadecimal (base 16) notation **and** also equals the sum of its digits when represented in duodecimal (base 12) notation.

For example, the number 2991 has the sum of (decimal) digits $2+9+9+1 = 21$. Since $2991 = 1 \cdot 1728 + 8 \cdot 144 + 9 \cdot 12 + 3$, its duodecimal representation is 1893_{12} , and these digits also sum up to 21. But in hexadecimal 2991 is BAF_{16} , and $11+10+15 = 36$, so 2991 should be rejected by your program.

The next number (2992), however, has digits that sum to 22 in all three representations (including $BB0_{16}$), so 2992 should be on the listed output. (We don't want decimal numbers with fewer than four digits — excluding leading zeroes — so that 2992 is the first correct answer.)

Input

There is no input for this problem

Output

Your output is to be 2992 and all larger four-digit numbers that satisfy the requirements (in strictly increasing order), each on a separate line with no leading or trailing blanks, ending with a new-line character. There are to be no blank lines in the output. The first few lines of the output are shown below.

Sample Input

There is no input for this problem

Sample Output

```
2992
2993
2994
2995
2996
2997
2998
2999
```