

Let's learn about list comprehensions! You are given three integers x, y and z representing the dimensions of a cuboid along with an integer n . Print a list of all possible coordinates given by (i, j, k) on a 3D grid where the sum of $i + j + k$ is not equal to n . Here, $0 \leq i \leq x; 0 \leq j \leq y; 0 \leq k \leq z$. Please use list comprehensions rather than multiple loops, as a learning exercise.

Example

$x = 1$
 $y = 1$
 $z = 2$
 $n = 3$

All permutations of $[i, j, k]$ are:
 $[[0, 0, 0], [0, 0, 1], [0, 0, 2], [0, 1, 0], [0, 1, 1], [0, 1, 2], [1, 0, 0], [1, 0, 1], [1, 0, 2], [1, 1, 0], [1, 1, 1], [1, 1, 2]]$
 Print an array of the elements that do not sum to $n = 3$.
 $[[0, 0, 0], [0, 0, 1], [0, 0, 2], [0, 1, 0], [0, 1, 1], [1, 0, 0], [1, 0, 1], [1, 1, 0]]$

Input Format

Four integers x, y, z and n , each on a separate line.

Constraints

Print the list in lexicographic increasing order.

Sample Input 0

1
1
1
2

Sample Output 0

Change Theme

Language

Python 3

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```

1  if __name__ == '__main__':
2      x = int(input())
3      y = int(input())
4      z = int(input())
5      n = int(input())
6
7      '''cuboid=[ ]
8      for i in range(x+1):
9          for j in range(y+1):
10             for k in range(z+1):
11                 if (i+j+k)!=n:
12                     l=[i,j,k]
13                     cuboid.append(l)
14 print(cuboid)'''
15
16
17 print([[i,j,k] for i in range(x+1) for j in range(y+1) for k
18        if (i+j+k)!=n] )

```

Line: 18 Col: 1

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Test against custom input