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GeeksforGeeks VIT Bhopal

List Comprehensions | HackerRank

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List Comprehensions

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Python

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Problem

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Tutorial

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], [1, 1, 2]]

Input Format

Authorharsh_beria93

DifficultyEasy

Max Score10

Submitted By351320

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Change Theme Python 3

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

Line: 18 Col: 1

Upload Code as File ☐ Test against custom input

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Line: 18 Col: 1

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✔ Test case 0

✔ Test case 1

✔ Test case 2

✔ Test case 3

✔ Test case 4

✔ Test case 5

✔ Test case 6

Compiler Message

Success

Input (stdin)

Download

11

21

31

42

Expected Output

Download

1[[0, 0, 0], [0, 0, 1], [0, 1, 0], [1, 0, 0], [1, 1, 1]]

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