

Problem Statement

As of late, your usually high-performance computer has been acting rather sluggish. You come to realize that while you have plenty of free disk space on your machine, it is split up over many hard drives. You decide that the secret to improving performance is to consolidate all the data on your computer onto as few hard drives as possible.

Given a `Integer()` **used**, representing the amount of disk space used on each drive, and a corresponding `Integer()` **total**, representing the total capacity of each drive mentioned in **used**, you should attempt to pack the data onto as few hard drives as possible. You may assume that the data consists of very small files, such that splitting it up and moving parts of it onto different hard drives never presents a problem. Return the minimum number of hard drives that still contain data after the consolidation is complete.

Definition

Class:	DiskSpace
Method:	minDrives
Parameters:	<code>Integer()</code> , <code>Integer()</code>
Returns:	<code>Integer</code>

Method signature: `Public Function minDrives(used As Integer(), total As Integer()) As Integer`

(be sure your method is public)

Constraints

- **used** will contain between 1 and 50 elements, inclusive.
- **used** and **total** will contain the same number of elements.
- Each element of **used** will be between 1 and 1000, inclusive.
- Each element of **total** will be between 1 and 1000, inclusive.
- `used[i]` will always be less than or equal to `total[i]`, for every valid index `i`.

0)

 $\{350, 600, 115\}$

1)

$$\{1000, 200, 200, 200, 200, 200\}$$

2)

 $\{800, 850, 900, 950, 1000\}$

3)

{49,4
9,49}

[illegible]

Returns: 49

To consolidate this data, you would select one hard drive, and transfer 1 MB of data from it to each other drive. This results in 49 completely full hard drives and one empty drive.

4)

{331, 242, 384, 366, 428, 114, 145, 89, 381, 170, 329, 190, 482, 246, 2, 38, 220, 290, 402, 385}

$$\{992, 509, 997, 946, 976, 873, 771, 565, 693, 714, 755, 878, 897, 789, 969, 727, 765, 521, 961, 906\}$$

Returns: 6