Problem C: Gone Fission

Each layer of the revolutionary Cold Radon Nuclear Reactor (CRNR) consists of an $m \times n$ grid, $m, n \geq 1$, in which a radon fuel pellet must be placed in each grid-position to ensure a controlled fission reaction. Unfortunately, a "feature" of the pellet-loading software (developed at an unnamed university with the initials MIT) is that, on occasion, radon fuel pellets are replaced by Oreo cookies. An Oreo cookie has precisely twice the density of a radon fuel pellet, so an X-ray beam shot through a row or column of the reactor layer with x fuel pellets and y cookies will have a reading of x + 2y.

Given two vectors of readings corresponding to the readings of X-rays shot through the columns and rows of a CRNR, you need to determine the total number of Oreos in, *i.e.*, the Oreocity of, that layer.

Input

The first line contains the number n of test cases in the sample input file. Each test case consists of three lines, the first of which has the number of columns and the number of rows in the reactor layer, the second of which has the X-ray values for each column in the reactor layer, and the third of which has the X-ray readings for each row in the reactor layer. All readings are integers with value zero or above.

Output

For each test case, determine the Oreocity of the reactor layer and if the Oreocity is one, determine the grid-position of the lone Oreo, where grid-position (x = 1, y = 1) is the upper left-hand corner of the grid.

Sample input (available as file "C.in"):

Sample output (available as file "C.out"):

```
Layer-dataset #1: Oreocity = 0
Layer-dataset #2: Oreocity = 1 (position = (3,2))
Layer-dataset #3: Oreocity = 2
Layer-dataset #4: Oreocity = 6
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