Given *N* sequences, each containing *M* integers, each of which is between *0* and *B-1* inclusively. We define the sum of a number of sequences as a sequence with the same length, in which each element is equal to the sum of the elements on that specific position, **modulo B**.

For example, the sum of the sequences *{1, 4, 2}*, *{2, 2, 2}* и *{3, 1, 3}* with *B=5* is the sequence *{((1+2+3) mod 5) =* ***1****, ((4+2+1) mod 5) =* ***2****, ((2+2+3) mod 5) =* ***2****}*.

The value of a sequence *{A1, A2, …, AM}* is defined as $\sum\_{i=1}^{M} A\_{i}^{2}$.

Write a program **subsetselection**, which chooses a non-empty subset of the *N* given sequences, such that the value of the sum of the sequences in the chosen subset is as large as possible.

**Input**

The first line of the input file subsetselection.in contains three positive integers – *N, M* and *B*. Each of the next *N* lines contains *M* integers, each of which is between *0* and *B-1*, describing the respective sequence.

**Output**

On the first line of the output file subsetselection.out print one positive integer *K* – the number of the chosen sequences. On each of the following *K* lines print a single positive integer – the input index of the current sequence. Sequences are numbered from *1* to *N*. You can print them in whatever order you wish, but there should not be repeating indices or indices not in the interval between *1* and *N*.

**Scoring**

If the output does not fulfill the restrictions above, you will receive 0 points for the test.

Otherwise, you will receive $score × (\frac{yours+1}{best+1})^{2}$ points, where *score* is the number of points the test is worth, *yours* is the value of the sum-sequence, obtained by you, and *best* is the maximum value of a sum-sequence among all participants for the given test.

**Constraints**

|  |  |
| --- | --- |
| Portion of tests | Constraints |
| 15% | $$N=20, M=20, B\in [2; 20]$$ |
| 35% | $$N=200, M=200, B\in [2; 100]$$ |
| 50% | $$N=1000, M=1000, B\in [2; 100]$$ |

**Time limit: 5 s**

**Memory limit: 256 MB**

**Sample test**

|  |  |
| --- | --- |
| **Input (subsetselection.in)** | **Output (subsetselection.out)** |
| 5 3 31 0 00 0 01 2 31 2 22 3 1 | 214 |

The proposed output will give a result of 12.