[ML] Flipped Data

Problem ID: flipped

You were carrying your data to your machine learning model, but along the way you tripped and fell! You accidentally flipped b rows of your training data when this happened but aren't sure which ones. Your data consists of an array of n rows and f columns. Thankfully, you know that your data initially was nicely distributed. Originally, the data in the j-th column was normally distributed with mean u_j, and standard deviation d_j.

Determine which rows were flipped so you can train your model.

Input

Your program will receive input from standard input.

The first line will contain three space-separated integers, n, f, and b, representing the number of rows and columns in each row, and the number of flipped rows. The following n lines will each contain f space separated floats.

Output

Your program should write to standard output.

Print b lines, each containing a single integer o_i indicating that row o_i was flipped. Rows numbers start at 1 and go up to n.

Constraints

- $10^2 \leq n \leq 10^5$
- $10 \leq b \leq 0.4 \times n$
- $10 \leq f \leq 30$
- $0 \leq u_i \leq 1$
- $0 \leq d_i \leq 0.5$

Scoring

The score awarded for this problem is the percentage of flipped rows which were correctly identified. Scores are rounded to the nearest integer.

Sample Input 1

```
10 6 3
0.48 0.97 0.24 0.58 0.69 0.29
0.16 0.61 0.74 0.41 0.96 0.41
0.26 0.61 0.63 0.32 0.81 0.47
0.50 0.90 0.45 0.68 0.64 0.20
0.42 0.95 0.46 0.64 0.60 0.24
0.06 0.51 0.66 0.31 0.90 0.44
0.11 0.54 0.74 0.40 0.86 0.40
0.17 0.74 0.62 0.37 0.96 0.44
0.19 0.51 0.67 0.40 0.97 0.39
0.18 0.57 0.50 0.27 0.87 0.43
```

Sample Output 1

```
1
4
5
```