Innovative Combination

Suddenly Ronny opened his eyes, the entire battle was only a dream! Then he looked up his watch and realize that it was really late, and decided to go back home.

Inmediatly after his arrival he received a call from CEIDEC (Center of Extraordinary Investigations Defining Excluded Creatures), they needed a password to open the exit door of the congress, and Ronny was the only one that knew the combination, but he forgot it! Fortunately, he had a ”clue” of the password that says: Given a sequence of numbers, and a special list of numbers, the password would be the number of appearence of each special number on the first sequence, keeping the order of the list of special numbers.

Input

The first line contains an integer T , which specifies the number of test cases. Then, will follow the descriptions of T test cases.

Each test case description will contain an integer N and an integer M . N is the size of the first sequence of numbers, and M is the size of the list of special numbers. Note: A special number will not always appear at least once on the entire sequence.

After that, a line with N numbers that represents the sequence, and then a line with M numbers that represents the list of special numbers.

The input must be read from standard input.

Output

For each input case you must print a single line with the string "Scenario #i: " where i is the number of the test case (Starting by 1), followed by the password of the exit door of the congress.

The output must be written to standard output.

INPUT	OUTPUT

3 5 2 3 3 5 4 4 5 4 7 4 4 8 5 5 5 4 8 4 4 8 5 10 6 3 3 7 6 5 5 7 6 6 6 5 7 6 6 3 5	Scenario #1: 12 Scenario #2: 2223 Scenario #3: 224422

Constraints

- $1 \leq T \leq 100$
- $1 \leq N \leq 100,000$
- $1 \leq M \leq 100,000$
- $1 \leq Ni , Mi \leq 100,000$