

3102 Prize Hop

A local noontime variety show is introducing a new and exciting game. In it, the hosts arrange a series of boxes each with corresponding heights and cash values along a table from left to right. When a player is called, he will be asked to pick one box from which he will begin the game. The cash value of that starting box will be added to his prize total. After the player has chosen, he will then be asked to pick another box subject to the following restrictions:

- The new box must be no taller than the box previously chosen.
- The new box must be to the right of the box previously chosen.

The cash value of this new choice will also be added to his prize. The process of picking new boxes subject to the above restrictions will be repeated continuously until such a time when no more legal choices are possible.

Obviously, the object of the game is to get as much cash prize as possible.

Notes:

- The player can skip boxes as long as the next choice is to the right of the last box chosen.
- The leftmost box is not necessarily the starting box.

Input

The first line will be an integer n corresponding to the number of games that will be played. It will then be followed by n groups of three lines each where each group will correspond to a particular game. The first line of each group will be an integer m that defines the number of boxes in the game. The second line of each group will be a comma-separated list of m integers where each integer is the height of the m boxes defined from left to right. Finally, the third line of each group will be a comma-separated list of m integers corresponding to the cash values of the boxes.

- The input file will contain at most 10 game definitions ($1 \leq n \leq 10$).
- Each game will have at least 2 boxes and at most 100 ($2 \leq m \leq 100$).
- The cash values will be non-negative integers less than or equal to 1000.
- The height of each box will be a non-negative integer less than or equal to 1000.

Output

The output will consist of n lines; each displaying the maximum possible cash prize for each of the games defined in the input.

Sample Input

```
2
3
10,15,8
5, 9,7
520,18,19,19,15
5,10,8,13,5
```

Sample Output

Game #1: 16

Game #2: 31