

There is a SuperSale in a SuperHiperMarket. Every person can take only one object of each kind, i.e. one TV, one carrot, but for extra low price. We are going with a whole family to that SuperHiperMarket. Every person can take as many objects, as he/she can carry out from the SuperSale. We have given list of objects with prices and their weight. We also know, what is the maximum weight that every person can stand. What is the maximal value of objects we can buy at SuperSale?

Input

The input consists of T test cases. The number of them ($1 \leq T \leq 1000$) is given on the first line of the input file. Each test case begins with a line containing a single integer number N that indicates the number of objects ($1 \leq N \leq 1000$). Then follows N lines, each containing two integers: P and W . The first integer ($1 \leq P \leq 100$) corresponds to the price of object. The second integer ($1 \leq W \leq 30$) corresponds to the weight of object. Next line contains one integer ($1 \leq G \leq 100$) its the number of people in our group. Next G lines contains maximal weight ($1 \leq MW \leq 30$) that can stand this i -th person from our family ($1 \leq i \leq G$).

Output

For every test case your program has to determine one integer. Print out the maximal value of goods which we can buy with that family.

Sample Input

```
2
3
72 17
44 23
31 24
1
26
6
64 26
85 22
52 4
99 18
39 13
54 9
4
23
20
20
26
```

Sample Output

```
72
514
```