Weapons   X75800_en

After each stage of the video game, the player has the option of buying weapons using money gathered from killing enemies. The ship can carry a single copy of each weapon, each of which has a price and a damage rate. The total damage rate of the ship equals the sum of the damage rate of its weapons. However, not all weapons are available for purchase at any given time. Help the player optimize the purchase of weapons to maximize the damage rate.

Input

The input begins with an integer $1 \leq N \leq 1000$ representing the number of weapons. On the next N lines appear the price $1 \leq P \leq 1000$ and damage rate $1 \leq D \leq 1000$ of each weapon. Several test cases follow. Each test case consists of the player's money $1 \leq M \leq 1000$, the number of available weapons $1 \leq K \leq N$, and the K indices of the available weapons.

Output

For each test case, a number on a single line representing the maximum damage rate of weapons that the player can buy with their money.

Sample input 1	Sample output 1
1 1 5 1 1 1	5

Sample input 2	Sample output 2
2 1 5 2 10 1 2 1 2 2 2 1 2 3 2 1 2	5 10 15

Sample input 3	Sample output 3
5 3 7 7 13 11 23 13 29 17 37 10 2 1 4 20 3 1 2 4 30 3 2 3 5 40 5 1 2 3 4 5	7 42 60 86

Problem information

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