

2509 Cash Machine

A Bank plans to install a machine for cash withdrawal. The machine is able to deliver appropriate ♣ (♣ is the symbol of the currency delivered by the machine. For instance, ♣ may stand for dollar, euro, pound etc.) bills for a requested cash amount. The machine uses exactly N distinct bill denominations, say D_k , $k = 1, \dots, N$, and for each denomination D_k the machine has a supply of n_k bills. For example,

$$N = 3, n_1 = 10, D_1 = 100, n_2 = 4, D_2 = 50, n_3 = 5, D_3 = 10$$

means the machine has a supply of 10 bills of ♣100 each, 4 bills of ♣50 each, and 5 bills of ♣10 each.

Call *cash* the requested amount of cash the machine should deliver and write a program that computes the maximum amount of cash less than or equal to *cash* that can be effectively delivered according to the available bill supply of the machine.

Input

The program input is from a text file. Each data set in the file stands for a particular transaction and has the format:

$$cash \ N \ n_1 \ D_1 \ n_2 \ D_2 \ \dots \ n_N \ D_N$$

where $0 \leq cash \leq 100000$ is the amount of cash requested, $0 \leq N \leq 10$ is the number of bill denominations and $0 \leq n_k \leq 1000$ is the number of available bills for the D_k denomination, $1 \leq D_k \leq 1000$, $k = 1, \dots, N$. White spaces can occur freely between the numbers in the input. The input data are correct.

Output

For each set of data the program prints the result to the standard output on a separate line as shown in the samples below.

Hints:

The first data set designates a transaction where the amount of cash requested is ♣735. The machine contains 3 bill denominations: 4 bills of ♣125, 6 bills of ♣5, and 3 bills of ♣350. The machine can deliver the exact amount of requested cash ($\clubsuit 735 = 1 * \clubsuit 350 + 3 * \clubsuit 125 + 2 * \clubsuit 5$).

In the second case the bill supply of the machine does not fit the exact amount of cash requested. The maximum cash that can be delivered is ♣630 ($\clubsuit 630 = 6 * \clubsuit 100 + 1 * \clubsuit 30$ or $21 * \clubsuit 30$). Notice that there can be several possibilities to combine the bills in the machine for matching the delivered cash.

In the third case the machine is empty and no cash is delivered. In the fourth case the amount of cash requested is ♣0 and, therefore, the machine delivers no cash.

Sample Input

```
735 3 4 125 6 5 3 350
633 4 500 30 6 100 1 5 0 1
735 0
0 3 10 100 10 50 10 10
```

Sample Output

```
735
630
0
0
```