DWITE '08 R2 #4 - Big shiny tunes

Time limit: 1.0s **Memory limit:** 64M

DWITE Online Computer Programming Contest, November 2008, Problem 4

Having acquired more (totally legitimate) music than a tiny iPod Nano (it's a first generation, 2GB model, so that's plausible) can hold, and wanting to load music in full albums only, has posed quite a challenge for deciding on the playlists. To complicate matters further, the disk space is shared with other data, so it fluctuates from time to time. This calls for some *Computer Science*.

The input will contain 5 sets of input. First line is the space available; an integer value $1 \leq S \leq 100$. Second line is an integer N, the number of albums in the library; $1 \leq N \leq 20$. The next N lines describe albums – space required and total utility; both integer values, separated by space; $1 \leq space, utility \leq 1000$. Each set is separated by a newline.

The output will contain 5 lines of output, each a sum of maximum utility that could fit given the associated input.

Note: Each album can appear only once in the playlist; though space-utility values are not guaranteed to be unique.

Sample Input

```
100
3
90 1000
50 400
50 400

100
3
90 1000
50 600
50 600

100
2
50 500
10 10
```

Sample Output

```
1000
1200
510
```