Truck Profit

Program Name: Truck.java   **Input File: truck.dat**

The manager of your company's Frisco distribution center has asked for help studying the efficiency of the facility.

Trucks leave the distribution center and drive to a small area in the Dallas Ft. Worth region, where retailers in that area have ordered a specific list of items. Your job is to write a program that finds the maximum potential value of each trip, by selecting items to be included. For this program, you don't need to generate a bill of lading, only the maximum value possible. [Your program is part of a larger study to determine if equipment changes need to be made at the distribution center.]

Input

The first line of the input file will contain a single integer, N, $1 \leq N \leq 50$, giving the number of datasets to follow.
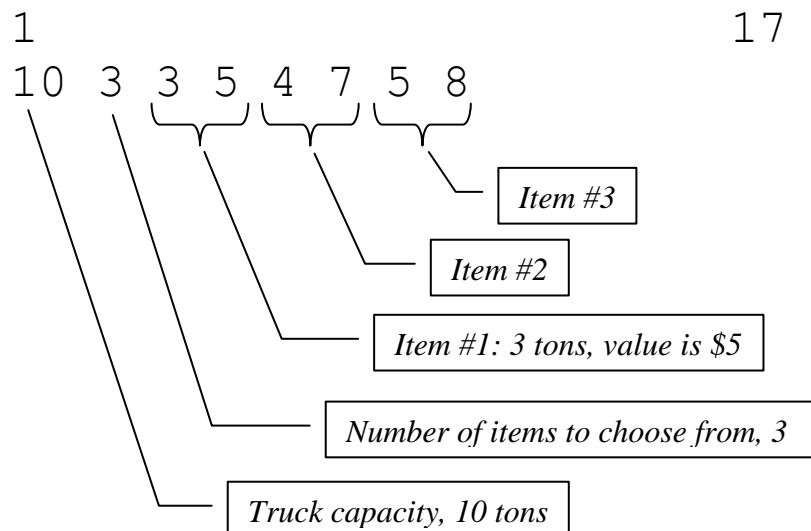
Each dataset will be in the following format:

The first integer of each dataset (line) will contain an integer T_w, $1 \leq T_w \leq 50$, the total weight capacity of the truck, followed by a second integer *itemCount*, $1 \leq itemCount \leq 50$, the number of item <u>types</u> available for transport. Each *itemCount* pair of integers that follow contains the weight and value of each item.

Output

For each dataset, output a single integer giving the maximum value possible for this truck (one answer per line).

Sample Input:
```
1
10 3 3 5 4 7 5 8
```

Sample Output:
```
17
```

Item #3

Item #2

Item #1: 3 tons, value is $5

Number of items to choose from, 3

Truck capacity, 10 tons