

Steal the most Value (12687)

Data Structures Assignment 0 Overviews and Recursive



2021.3.8

NTHU EECS

Description

- You are a thief sneaking into a house that contain N-items with a bag that can hold K-kilograms.
- Each item contains its own value(V_i) and weight(W_i).
- Since your bag is not strong enough to carry over the limit of K(the sum of weight W you carry must be less than K).
- What is the highest value you can carry out from this house?

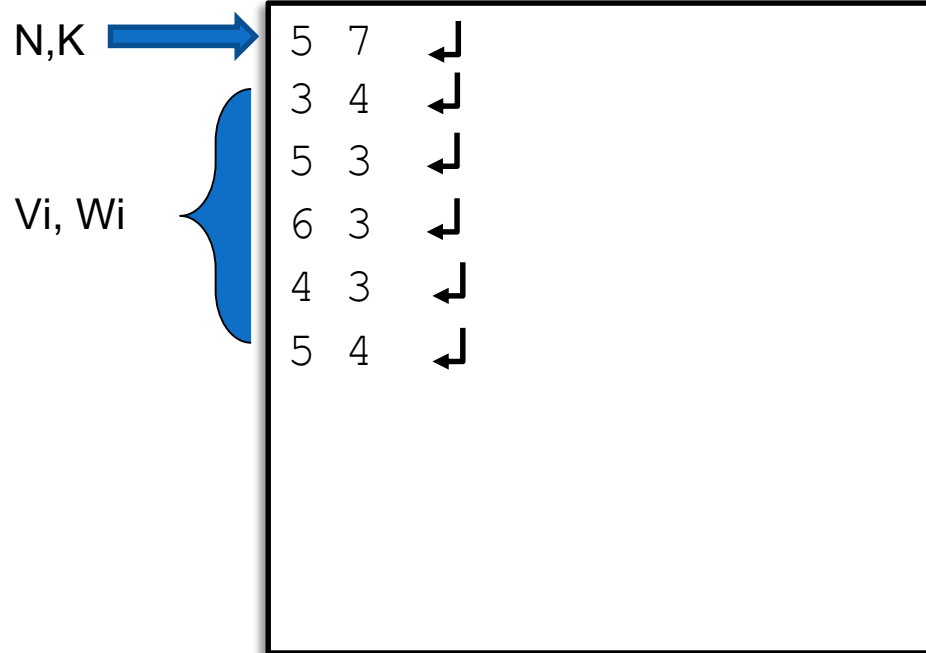
Input

- The first line contains two integers N and K , representing the number of items in the house and how much can the bag hold.
- Each of the following N lines contain two integers V_i and W_i , describing the value and weight of the i -th item.
- It is guaranteed that :
 - $0 \leq V_i, W_i \leq 10^3$
 - For test case #1~9: $1 \leq N \leq 20, 0 \leq K \leq 10^3$
 - For test case #10: $1 \leq N \leq 100, 0 \leq K \leq 10^3$

Output

- Print the most value the thief can get.
- You need to print a newline '`\n`' right following your answer!

Sample Input



The diagram illustrates the input for a problem. A blue arrow points from the label N, K to the first column of a table. A blue bracket groups the labels V_i, W_i with the second and third columns of the table. The table contains six rows of data, each with two numbers and a right-pointing arrow.

5	7	→
3	4	→
5	3	→
6	3	→
4	3	→
5	4	→

Sample Output

11

Schedule

- HW0 Deadline: 3/21 (Sun.) 23:59
 - Start of Registration: 3/10 (Wed.) 23:59
 - End of Registration: 3/11 (Thu.) 23:59
- Quiz 0: 3/22 (Mon.) 18:30 ~ 20:30