Online 5: Greedy Algorithm
Time: 30 minutes

Problem Specification:

Imagine the situation described in the offline, but this time all the customers are available to be served from the beginning and you can serve one customer at a time. Each of them will wait a certain amount of time and then leave. Assume that each customer takes one unit of time to be served and no one can be served after they leave. You can make a certain amount of profit out of each customer.

Implement an algorithm to select the customers to be served to gain maximum profit.

Input:

The first line of the input file will contain the number of customers, followed by the maximum waiting time of each customer and the profit that can be made from that customer in each line.

For example:

10

9 15

2 2

5 18

7 1

4 25

2 20

5 8

7 10

4 12

3 5

Output:

The customers who can be served and the maximum profit. Output for the above input should be :

1 3 4 5 6 7 8 9

Maximum profit: 109