

Contest Duration: 2025-10-04(Sat) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20251004T2100&p1=248>) - 2025-10-04(Sat) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20251004T2240&p1=248>) (local time) (100 minutes)

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G - Range Knapsack Query

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 575 points

Problem Statement

There are N items numbered from 1 to N . The **weight** of item i is W_i and the **value** is V_i .

You are given Q queries, so process them in order. The j -th query is as follows:

- Integers L_j, R_j, C_j ($1 \leq L_j \leq R_j \leq N$) are given. When choosing some (possibly zero) items from items $L_j, L_j + 1, \dots, R_j$ such that the total weight does not exceed C_j , find the maximum possible total value of the chosen items.

Constraints

- $1 \leq N \leq 2 \times 10^4$
- $1 \leq Q \leq 2 \times 10^5$
- $1 \leq W_i \leq 500$
- $1 \leq V_i \leq 10^9$
- $1 \leq L_j \leq R_j \leq N$
- $1 \leq C_j \leq 500$
- All input values are integers.

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Input

The input is given from Standard Input in the following format:

```
N
W1 V1
W2 V2
⋮
WN VN
Q
L1 R1 C1
L2 R2 C2
⋮
LQ RQ CQ
```

Output

Output Q lines. The i -th line ($1 \leq i \leq Q$) should contain the answer for the i -th query.

Sample Input 1

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```
4
3 4
5 8
1 2
2 3
3
1 4 7
2 4 10
1 2 2
```

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Sample Output 1

Copy

```
11
13
0
```

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For the first query, among items 1, 2, 3, 4, if you choose items 2, 4, the total weight is $5 + 2 = 7$, which does not exceed $C_1 = 7$, and the total value is $8 + 3 = 11$. This is the maximum.

For the second query, even if you choose all items 2, 3, 4, the total weight is $5 + 1 + 2 = 8$, which does not exceed $C_2 = 10$, and you can achieve a total value of $8 + 2 + 3 = 13$.

For the third query, both items 1, 2 have weights exceeding $C_3 = 2$, so you cannot choose any item, and the maximum total value is 0.

Sample Input 2

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```
8
167 430302156
22 623690081
197 476190629
176 24979445
22 877914575
247 211047202
232 822804784
25 628894325
8
6 8 176
3 5 80
1 7 310
4 8 368
4 5 218
3 4 431
4 6 228
1 1 239
```

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Sample Output 2

[Copy](#)

```
628894325
877914575
2324409440
2329613684
902894020
501170074
902894020
430302156
```

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