



School Bus

Problem Statement

Oski is a school bus driver who picks up children from their homes and takes them to school.

There are N houses along a straight road, numbered from 1 to N . House i is located at position i , and child i lives there.

Each child has a scheduled pickup time. Child i can be picked up only at exactly time T_i . If Oski arrives at house i before time T_i , he must wait until time T_i to pick up the child. If he arrives after time T_i , the child has already left and can no longer be picked up.

Oski has unlimited preparation time before time 0, so he may choose any starting position and be there by time 0. Traveling between houses i and j takes exactly $|i - j|$ units of time. Oski can travel in either direction and change direction at any time.

Oski may pick up any subset of children in any order, and each pickup takes no time. After completing his route, Oski takes all picked-up children to school and receives a reward of C_i coins for each child i he successfully picked up.

Help Oski determine the maximum total number of coins he can earn.

Input Format

The first line contains an integer N ($1 \leq N \leq 2 \times 10^5$), representing the number of houses and children.

Each of the next N lines contains two integers T_i and C_i ($0 \leq T_i \leq 10^9$, $1 \leq C_i \leq 10^9$), representing the pickup time and reward for child i .

Output Format

Print one integer representing the maximum total number of coins Oski can earn.

Sample Input

```
4
2 10
0 20
7 50
3 30
```

Sample Output

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100
```

Explanation of Sample

Oski can earn a maximum of 100 coins by picking up child 2, then child 4, and finally child 3.

First, Oski starts at house 2 at time 0. He picks up child 2 at time 0 and earns 20 coins.

He immediately departs for house 4. The travel time from house 2 to house 4 is $|2 - 4| = 2$, so Oski arrives at time 2. Child 4 is scheduled for pickup at time 3, so he waits for 1 unit of time. At time 3, he picks up child 4 and earns 30 coins.

Next, Oski travels to house 3. The travel time from house 4 to house 3 is $|4 - 3| = 1$, arriving at time $3 + 1 = 4$. Child 3 is scheduled for pickup at time 7, so Oski waits for 3 units of time. At time 7, he picks up child 3 and earns 50 coins.

The total coins earned is $20 + 30 + 50 = 100$.