Sanji Zombie Fungi

A team of scientists has discovered a new type of fungus called '**Sanji**' that has the potential to turn humans into zombies. The fungus grows on the human body in multiple layers that cover human cells. Any cell that is located beneath a layer of fungus can be considered affected.

In order to find a treatment for a fungi disease, scientists conducted an experiment where they analyzed a rectangular tissue sample containing various layers of fungi of different sizes which were affecting human cells. They discovered that the current medical advancements can only remove one layer of fungus cells at most. This removal maximizes the number of healthy human cells which are not under any fungus layer. By treating these cells as healthy ones, the chances of surviving and not turning into a zombie increase significantly.

To model the rectangular tissue, we can consider it as a one-dimensional row of concentrated groups of cells at specific discrete intervals. Each layer of fungus in the tissue covers a range of these cell groups at different concentrated points. You are given the number of cells in a cell group and their location in the cell row, the locations of the fungi layer and the extent of coverage of the layers respectively. What is the maximum number of cells that will be in a healthy state after removing exactly one layer of fungus cells?

Remember that any group cell points not covered by a layer of fungus has already been considered a healthy cell group. Therefore, the final answer must include the number of cells at this point.

Input Format

The first line of the input consists of a single integer **n**, which represents the number of cell groups.

The next line of the input contains **n** space-separated integers p_i ,each one of integer denotes the number of cells of the i^{th} cell group.

The third line contains **n** space-separated integers x_i denoting the position of the i^{th} cell group on the one-dimensional cell row.

The fourth line consists of a single integer **m** denoting the number of fungus layer covering cell groups.

The fifth line contains **m** space-separated integers y_i the i^{th} of which denotes the location of the i^{th} layer on the cell row.

The final line consists of **m** space-separated integers r_i denoting the range of the i^{th} fungus layer.

Note: The range of each fungus layer is computed according to its location, i.e., the ith fungus layer is located at position y_i and it covers every cell group within a distance of r_i from it. In other words, the i^{th} fungus layer covers every cell group with location in the range $y_i - r_i, y_i + r_i$.

Constraints

- $1 \leq n \leq 2 \times 10^5$
- $1 \leq m \leq 10^5$
- $1 \leq x_i, p_i, y_i, r_i \leq 10^9$

Output Format

Print a single integer denoting the maximum number of healthy cells by removing exactly one layer of fungus.

Sample Input 0

```
2
10 100
5 100
1
4
1
```

Sample Output 0

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110
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