Pokemon Don't Go

Pokemon Don't Go is a new game. When you walk to a certain pokemon, those closer to you, naturally get further, and those further from you, get closer.

You will receive a **sequence** of **integers**, separated by **spaces** – the distances to the pokemons. Then you will begin **receiving integers**, which will **correspond** to **indexes** in **that sequence**.

When you **receive** an **index**, you must **remove** the **element** at **that index** from the **sequence** (as if you've captured the pokemon).

- You must **INCREASE** the **value** of **all elements** in the sequence which are **LESS** or **EQUAL** to the **removed element**, with the **value** of the **removed element**.

- You must **DECREASE** the **value** of **all elements** in the sequence which are **GREATER** than the **removed element**, with the **value** of the **removed element**.

If the **given index** is **LESS** than **0**, remove the **first element** of the **sequence**, and **COPY** the **last element** to its place.

If the **given index** is **GREATER** than the **last index** of the **sequence**, **remove** the **last element** from the sequence, and **COPY** the **first element** to its place.

The **increasing** and **decreasing** of elements should be done in these cases, **also**. The **element**, whose value you should use is the **REMOVED** element.

The program **ends** when the **sequence** has **no elements** (there are no pokemons left for fly to catch).

Input

- On the **first line** of input you will receive a **sequence** of **integers**, **separated** by **spaces**.

- On the **next several** lines you will receive **integers** – the **indexes**.

Output

- When the program ends, you must print on the console, the **summed up value** of **all REMOVED elements**.

Constrains

- The input data will consist **ONLY** of **valid integers** in the **range [-2.147.483.648, 2.147.483.647]**.

Examples

Input	Output	Comments
4 5 3 1 1 0	14	The **array** is **{4, 5, 3}**. The index is **1**. We **remove 5**, and we **increase all lower** than it and **decrease all higher** than it. In this case there are **no higher** than **5**. The result is **{9, 8}**.

		The **index** is **1**. So we remove **8**, and **decrease all higher** than it.
		The result is **{1}**.
		The **index** is **0**. So we remove **1**.
		There are **no elements left**, so we print the **sum** of **all removed elements**.
		5 + 8 + 1 = 14.
5 10 6 3 5 2 4 1 1 3 0 0	51	**Step 1: {11, 4, 9, 11}** **Step 2: {22, 15, 20, 22}** **Step 3: {7, 5, 7}** **Step 4: {2, 2}** **Step 5: {4, 4}** **Step 6: {8}** **Step 7: {} (empty).** **Result = 6 + 11 + 15 + 5 + 2 + 4 + 8 = 51.**