

475. Heaters

Description

Winter is coming! During the contest, your first job is to design a standard heater with a fixed warm radius to warm all the houses.

Every house can be warmed, as long as the house is within the heater's warm radius range.

Given the positions of `houses` and `heaters` on a horizontal line, return *the minimum radius standard of heaters so that those heaters could cover all houses*.

Notice that all the `heaters` follow your radius standard, and the warm radius will be the same.

Example 1:

Input: `houses = [1,2,3]`, `heaters = [2]`

Output: 1

Explanation: The only heater was placed in the position 2, and if we use the radius 1 standard, then all the houses can be warmed.

Example 2:

Input: `houses = [1,2,3,4]`, `heaters = [1,4]`

Output: 1

Explanation: The two heaters were placed at positions 1 and 4. We need to use a radius 1 standard, then all the houses can be warmed.

Example 3:

Input: `houses = [1,5]`, `heaters = [2]`

Output: 3

Constraints:

- `1 <= houses.length, heaters.length <= 3 * 104`
- `1 <= houses[i], heaters[i] <= 109`

