

# 774. Minimize Max Distance to Gas Station Premium

Hard Topics Companies Hint

You are given an integer array `stations` that represents the positions of the gas stations on the **x-axis**. You are also given an integer `k`.

You should add `k` new gas stations. You can add the stations anywhere on the **x-axis**, and not necessarily on an integer position.

Let `penalty()` be the maximum distance between **adjacent** gas stations after adding the `k` new stations.

Return *the smallest possible value of* `penalty()`. Answers within  $10^{-6}$  of the actual answer will be accepted.

## Example 1:

**Input:** `stations = [1,2,3,4,5,6,7,8,9,10]`, `k = 9`  
**Output:** `0.50000`

## Example 2:

**Input:** `stations = [23,24,36,39,46,56,57,65,84,98]`, `k = 1`  
**Output:** `14.00000`

## Constraints:

- `10 <= stations.length <= 2000`
- `0 <= stations[i] <= 108`
- `stations` is sorted in a **strictly increasing** order.
- `1 <= k <= 106`

Seen this question in a real interview before? 1/5

Yes No

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