5451. Max Value of Equation

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Given an array `points` containing the coordinates of points on a 2D plane, sorted by the x-values, where `points[i] = [x_i, y_i]` such that `x_i < x_j` for all `1 <= i < j <= points.length`. You are also given an integer `k`.

Find the *maximum value of the equation* `y_i + y_j + |x_i - x_j|` where `|x_i - x_j| <= k` and `1 <= i < j <= points.length`. It is guaranteed that there exists at least one pair of points that satisfy the constraint `|x_i - x_j| <= k`.

User Accepted:	3
User Tried:	9
Total Accepted:	3
Total Submissions:	10
Difficulty:	Hard

Example 1:

```
Input: points = [[1,3],[2,0],[5,10],[6,-10]], k = 1
Output: 4
Explanation: The first two points satisfy the condition |x_i - x_j| <= 1 and if we calculate
No other pairs satisfy the condition, so we return the max of 4 and 1.
```

Example 2:

```
Input: points = [[0,0],[3,0],[9,2]], k = 3
Output: 3
Explanation: Only the first two points have an absolute difference of 3 or less in the x-v
```

Constraints:

- `2 <= points.length <= 10^5`
- `points[i].length == 2`
- `-10^8 <= points[i][0], points[i][1] <= 10^8`
- `0 <= k <= 2 * 10^8`
- `points[i][0] < points[j][0]` for all `1 <= i < j <= points.length`
- `x_i` form a strictly increasing sequence.

TypeScript

```
function findMaxValueOfEquation(points: number[][], k: number): number {
```

```
2
3 };
```

Custom Testcase Use Example Testcases

Run Submit