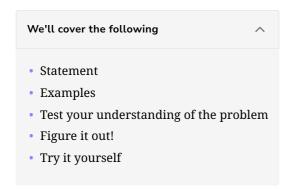
Kth Smallest Element in a Sorted Matrix

Try to solve the Kth Smallest Element in a Sorted Matrix problem.



Statement

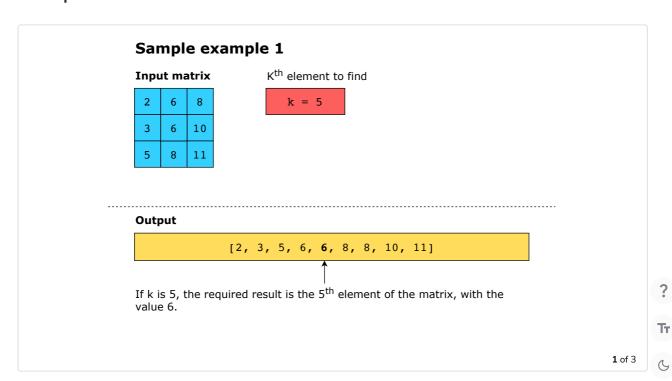
Find the k^{th} smallest element in an $(n \times n)$ matrix, where each row and column of the matrix is sorted in ascending order.

Although there can be repeating values in the matrix, each element is considered unique and, therefore, contributes to calculating the k^{th} smallest element.

Constraints:

- n == matrix.length
- n == matrix[i].length
- $1 \le n \le 300$
- $-10^9 \le \text{matrix[i][j]} \le 10^9$
- $1 \le \mathbf{k} \le n^2$

Examples



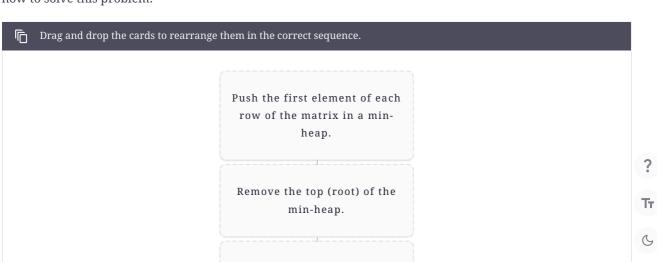
Test your understanding of the problem

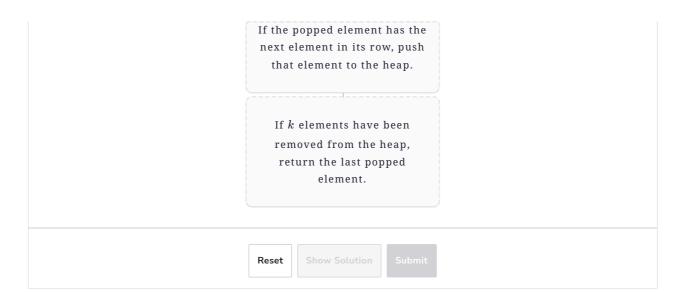
Let's take a moment to make sure you've correctly understood the problem. The quiz below helps you check if you're solving the correct problem:

 $K^{th} \ \text{Smallest Element in a Sorted Matrix}$ What is the correct output if the following matrix and value of k is given as input? $matrix = \begin{bmatrix} 1 & 5 & 9 \\ 10 & 11 & 13 \\ 12 & 13 & 15 \end{bmatrix}$ k = 8 A) 12 B) 13 C) 14 Submit Answer Question 1 of 3 O attempted $\text{Reset Quiz } \mathcal{O}$

Figure it out!

We have a game for you to play. Rearrange the logical building blocks to develop a clearer understanding of how to solve this problem.

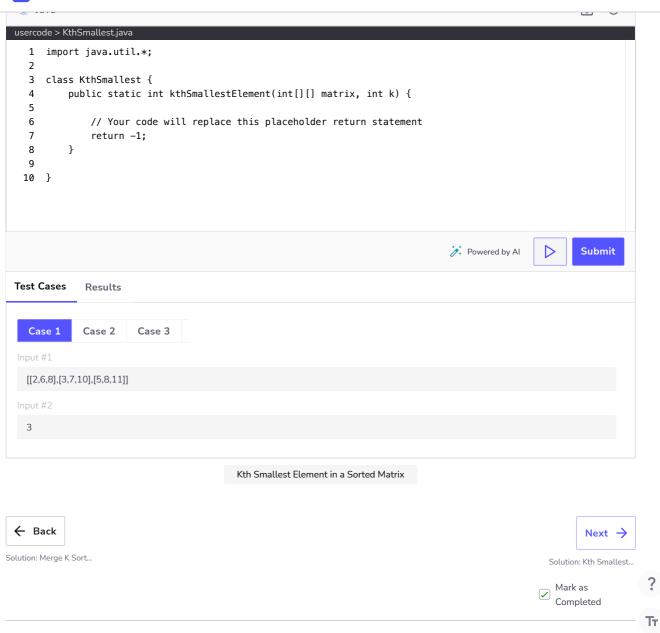




Try it yourself

Implement your solution in the following coding playground:





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