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1244. Design A Leaderboard

Premium

Solved

Medium

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Hint

Design a Leaderboard class, which has 3 functions:

1. addScore(playerId, score): Update the leaderboard by adding score to the given player's score. If there is no player with such id in the leaderboard, add him to the leaderboard with the given score.

2. top(K): Return the score sum of the top K players.

3. reset(playerId): Reset the score of the player with the given id to 0 (in other words erase it from the leaderboard). It is guaranteed that the player was added to the leaderboard before calling this function.

Initially, the leaderboard is empty.

Example 1:

Input:

["Leaderboard", "addScore", "addScore", "addScore", "addScore", "addScore", "top", "reset", "reset", "addScore", "top"]

[[], [1, 73], [2, 56], [3, 39], [4, 51], [5, 4], [1], [1], [2], [2, 51], [3]]

Output:

[null, null, null, null, null, null, 73, null, null, null, 141]

Explanation:

Leaderboard leaderboard = new Leaderboard ();
leaderboard.addScore(1, 73); // leaderboard = [[1, 73]];
leaderboard.addScore(2, 56); // leaderboard = [[1, 73], [2, 56]];
leaderboard.addScore(3, 39); // leaderboard = [[1, 73], [2, 56], [3, 39]];
leaderboard.addScore(4, 51); // leaderboard = [[1, 73], [2, 56], [3, 39], [4, 51]];
leaderboard.addScore(5, 4); // leaderboard = [[1, 73], [2, 56], [3, 39], [4, 51], [5, 4]];
leaderboard.top(1); // returns 73;
leaderboard.reset(1); // leaderboard = [[2, 56], [3, 39], [4, 51], [5, 4]];
leaderboard.reset(2); // leaderboard = [[3, 39], [4, 51], [5, 4]];
leaderboard.addScore(2, 51); // leaderboard = [[2, 51], [3, 39], [4, 51], [5, 4]];
leaderboard.top(3); // returns 141 = 51 + 51 + 39;

Constraints:

1 <= playerId, K <= 10000

It's guaranteed that K is less than or equal to the current number of players.

1 <= score <= 100

There will be at most 1000 function calls.

Seen this question in a real interview before?

1/5

YesNo

Accepted 73.1K | Submissions 107.7K | Acceptance Rate 67.9%

Topics

Companies

Hint 1

Hint 2

Hint 3

Discussion (3)

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</> Code

Python3

Auto

1class Leaderboard:

2

3def __init__(self):

4| self.dictx = {}

5

6

7def addScore(self, playerId: int, score: int) -> None:

8

9| if playerId not in self.dictx:

10| | self.dictx[playerId] = score

11| else:

12| | self.dictx[playerId] += score

13

14

15def top(self, K: int) -> int:

16

17| listx = sorted(self.dictx.values(), reverse=True)

18|

19| return sum(listx[:K])

20

21

22def reset(self, playerId: int) -> None:

Ln 15, Col 34

Testcase

Test Result

Accepted

Runtime: 44 ms

Case 1

Input

["Leaderboard", "addScore", "addScore", "addScore", "addScore", "addScore", "top", "reset", "reset", "addScore", "top"]

[[], [1, 73], [2, 56], [3, 39], [4, 51], [5, 4], [1], [1], [2], [2, 51], [3]]

Output

[null, null, null, null, null, null, 73, null, null, null, 141]