Rightmost position of insertion   P54070_en

Write an efficient function

$$\textbf{int} \ \textit{rightmost} \ (\textbf{double} \ x, \textbf{const} \ \textit{vector} < \textbf{double} > \& \ v);$$

that returns the rightmost position where x could be inserted in the sorted vector v (by adding one position at the end of v and moving the necessary elements one position to the right) so that v would remain sorted.

For instance, assume that x is 23. If v is [15, 15, 20, 30, 40, 40], then we must insert x at the position 3 (between 20 and 30), and the resulting v would be [15, 15, 20, 23, 30, 40, 40]. If v is [17, 23, 23, 35, 42, 42], then we could insert x at the positions 1, 2 or 3, so your function must return 3. If v is [3, 5, 7, 9], x should be inserted at the position just to the right of the end of the vector, that is, 4. As a final example, if v is [23, 23], x should be inserted at 2.

Precondition

The vector v is sorted in nondecreasing order.

Observations

- Your solution can only include the `vector` library.

- You can write and use additional functions if you need them.

- You only need to submit the required procedure; your main program will be ignored.

Problem information

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