Rightmost position of insertion   P54070_en

Write an efficient function

  int *rightmost* (**double** *x*, **const** *vector* <**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

Author: Salvador Roura
Translator: Salvador Roura

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