Select from two sorted arrays P72545_en

Write an efficient function

Interface

C++ **int** *select* (**int** *k*, **const vector**<**int**>& *v1*, **const vector**<**int**>& *v2*);

Python **def** *select* (*k*: **int**, *v1*: **list**[**int**], *v2*: **list**[**int**]) −> **int**:

that returns the @k@-th largest of all the elements contained in @v1@ and @v2@, taking into account repeated elements. For instance, if @v1@ contains a 5 and a 7, and @v2@ only contains a 5, then a call to @select(1, v1, v2)@ should return 5, a call to @select(2, v1, v2)@ should also return 5, and a call to @select(3, v1, v2)@ should return 7.

Precondition

The vectors @v1@ and @v2@ are sorted in nondecreasing order. The index *k* is correct, that is, it is between 1 and @v1.size()@ + @v2.size()@. Therefore, at least one of the vectors is not empty.

Observation

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

Problem information

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