
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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