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## Select from two sorted arrays

P72545\_en

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Write an efficient function

```
int select (int k, const vector<int>& v1, const vector<int>& v2);
```

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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