## Bi-increasing vector P99753_en

In this problem, we say that a vector with $n$ integer numbers @v[0..@$n-1$@]@ is *bi-increasing* if $n \geq 2$, @v[0]@ > @v[@$n-1$@]@, and there exists an index $j$ between 0 and $n-2$ such that:

- @v[0]@ ≤ ... ≤ @v[@$j-1$@]@ ≤ @v[@$j$@]@,
- @v[@$j+1$@]@ ≤ @v[@$j+2$@]@ ≤ ... ≤ @v[@$n-1$@]@.

For instance, the vector @[12, 12, 15, 20, 1, 3, 3, 5, 9]@ is bi-increasing (with $j = 3$).

Implement an *efficient* function

**bool** *search*(**int** $x$, **const** *vector*<**int**>& $v$);

such that, given an integer number @x@ and a bi-increasing vector @v@, returns if @x@ is in @v@ or not. You can use and implement auxiliary functions if you need them.

### Precondition

The vector @v@ is bi-increasing.

### Observation

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

### Problem information

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