
Dichotomic search

P81966_en

Write an efficient recursive function that returns the position of x in the subvector $v[\textit{left} .. \textit{right}]$. The function must return -1 if x does not belong to $v[\textit{left} .. \textit{right}]$ or if $\textit{left} > \textit{right}$.

Precondition

The vector v is sorted in strictly increasing order. Moreover, we have $0 \leq \textit{left} \leq \text{size of } v$ and $-1 \leq \textit{right} < \text{size of } v$.

Interface

C++	<code>int position (double x, const vector<double>& v, int left, int right);</code>
C	<code>int position (double x, double v[], int left , int right);</code>
Java	<code>public static int position (double x, double[] v, int left , int right);</code>
Python	<code>position (x, v, left , right) # returns int</code>
MyPy	<code>position (x: float , v: list [float], left : int , right : int) → int</code>

Observation

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

Problem information

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