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## Dichotomic search

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

### Observation

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

### Problem information

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