Number of rotations   P63069_en

Given a (non empty) circularly sorted vector of integers, find the number of times the vector is rotated. Assume that there are no duplicates in the vector and the rotation is in anticlockwise direction.

For instance,

- $[8, 9, 10, 2, 5, 6]$ is rotated three times,
- $[9, 10, 2, 5, 6, 8]$ is rotated two times,
- $[4, 0, 1, 2, 3]$ is rotated one time, and
- $[2, 5, 8, 9, 12]$ is rotated zero times.

Solve this problem *iteratively* in *logarithmic time*, using this C++ header:

int *number_of_rotations* (**const vector**<**int**>& *v*);

or this Python header:

number_of_rotations (*v*: **list** [**int**]) −> **int**

Write the invariant of the loop in a comment just before the loop in the function.

Observation

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

Problem information

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