Insertion Sort
Proof of Correctness

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Insertion sort

Insertion sort is a simple algorithm to sort all the elements in an array in increasing order.

Input Array A of length n

Output The same array A sorted in place.

```
1          for i = 2 to n
2              j = i
3              while (j ≥ 2) and (A_j < A_{j−1})
4                  exchange A_j and A_{j−1}
5                  j = j −1
```