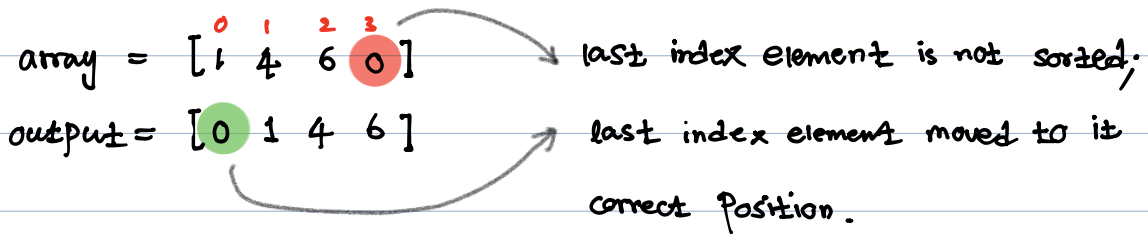
Question: Given an array of integers, where elements from (0 to N-1)th index is sorted except the last element sort the array such the last index element moves to its correct position.



Solution

Run a loop and compare ith element with ith+1 element, if ith element is greater than ith+1, swap them

Note: as the unsorted elements is at last index, start from last index.

Iteration - 1

array = [1 4 6 0]

arr[2] > arr[3], yes; swap them

```
temp = arr[3]
arr[3] = arr[2]
arr[2] = temp
```

array = [1 4 0 6]

Iteration -2

arr[1] > arr[2], yes ; swap with

temp = arr[2]

arr[2] = arr[1]

arr[1] = temp

array = [1 0 4 6] (0 1 2 3)

Iteration -3

arr[0] > arr[1] yes; swap them

temp = arr[1]

arr[1] = arr[0]

arr[0] = temp

array = [0 1 4 6] (0 1 2 3)

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code

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def sort(arr):
    n = len(arr)
    for i in range(n-2, -1, -1):
        if arr[j] > arr[j+1]:
            temp = arr[j]
            arr[j] = arr[j+1]
            arr[j+1] = temp
        else:
            break
```

j = (4-2) = 2 j+1 = 3

arr[2] > arr[3]

j = 2-1 = 1 j+1 = 1+1 = 2

j = 1-1 = 0 j+1 = 0+1 = 1