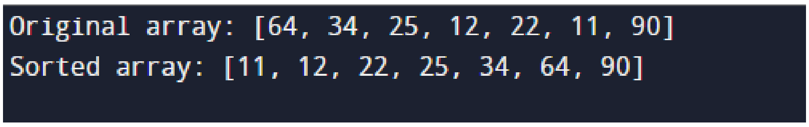
133. Sort an array of integers using the bubble sort technique. Analyze its time complexity using Big-O notation. Write the code

AIM: To osrt an array elements by using bubble sort

PROGRAM:

```
def bubble_sort(nums):
    n = len(nums)

    for i in range(n):
        swapped = False

        for j in range(0, n - i - 1):
            if nums[j] > nums[j + 1]:
                nums[j], nums[j + 1] = nums[j + 1], nums[j]
                swapped = True
                if not swapped:
            break

    return nums

nums = [64, 34, 25, 12, 22, 11, 90]
print("Original array:", nums)
sorted_nums = bubble_sort(nums)
print("Sorted array:", sorted_nums)
```

OUTPUT:



```
Original array: [64, 34, 25, 12, 22, 11, 90]
Sorted array: [11, 12, 22, 25, 34, 64, 90]
```

TIME COMPLEXITY:

BEST CASE: O(n)

AVERAGE CASE: O(n^2)

WORST CASE: O(n^2)