Selection Sort

Builds a sorted sublist on the left by finding the smallest element in the unsorted portion on each pass and moving it to the end of the sorted sublist.

```python
def selection_sort(arr: list) -> list:
    for i in range(len(arr)):
        lowest_index = i
        for j in range(i + 1, len(arr)):
            if arr[j] < arr[lowest_index]:
                lowest_index = j
        arr[i], arr[lowest_index] = arr[lowest_index], arr[i]
    return arr
```

Property	Details
How it works	Starting from the left, it repeatedly finds the smallest element in the unsorted portion of the list and swaps it with the first unsorted element. After each pass, the boundary between the sorted and unsorted portions moves to the right, gradually growing the sorted portion while shrinking the unsorted portion.
Time Complexity	$O(n^2)$ in all cases (Best, Average, Worst)
Space Complexity	O(1)
Stable	No
Type	in-place, iterative

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