86. Median of medians

Code:

```
def median_of_medians(arr, k):
    if len(arr) <= 5:
        return sorted(arr)[k]
    sublists = [arr[i:i + 5] for i in range(0, len(arr), 5)]
    medians = [sorted(sublist)[len(sublist) // 2] for sublist in sublists]
    median_of_medians_value = median_of_medians(medians, len(medians) // 2)
    low = [x for x in arr if x < median_of_medians_value]
    high = [x for x in arr if x > median_of_medians_value]
    equal = [x for x in arr if x == median_of_medians_value]
    if k < len(low):
        return median_of_medians(low, k)
    elif k < len(low) + len(equal):
        return median_of_medians_value
    else:
        return median_of_medians(high, k - len(low) - len(equal))
arr = [12, 3, 5, 7, 4, 19, 26]
k = 3
print(f"The {k+1}th smallest element is {median_of_medians(arr, k)}")
```

Output:

```
The 4th smallest element is 7
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Time Complexity:

- T(n)= O(n)