

## **PART 2 :**

### **TASK 1 :: AI – POWERED CODE COMPLETION**

The manually implemented version uses a nested loop to perform a basic bubble sort. While it works correctly, it has a time complexity of  $O(n^2)$ , meaning performance decreases rapidly as the list grows. It demonstrates the understanding of sorting logic but is inefficient for large datasets.

The AI-suggested version from Github Copilot, uses python's built-in `sorted()` function with a lambda expression. This approach is more concise, readable and efficient. It is less prone to human error.

**CONCLUSION:** The AI suggested version is more efficient, maintainable and professional for real-world use, while the manual version is better for understanding fundamental sorting logic.