

Question 01:

You are working as a game developer for an online multiplayer battle royale game. The game maintains an **unsorted leaderboard** of player scores. So, you can sort it using the Bubble Sort algorithm. Now write the **Bubble Sort algorithm and its time complexity**.

Question 02: (Related to Question 01)

The game now maintains a **sorted leaderboard** of player scores, where higher scores indicate better performance. A new player finishes a match and earns a score. For example,

scores = [2000, 1800, 1700, 1600, 1500]

playerScore = 1650

Now, your task is to determine **their rank** on the leaderboard using **an efficient searching technique**. Show the step-by-step process of how this searching technique can determine the rank (The score 1650 would be ranked 4th).