

## PHASE 1 PRACTICE ASSISTED PROJECT

### 4. Writing a program in Java implementing the bubble sort algorithm

```
package main;

public class BubbleSort {

    public static void bubbleSort(int[] arr) {
        int n = arr.length;

        for (int i = 0; i < n - 1; i++) {
            for (int j = 0; j < n - i - 1; j++) {
                if (arr[j] > arr[j + 1]) {
                    // Swap arr[j] and arr[j + 1]
                    int temp = arr[j];
                    arr[j] = arr[j + 1];
                    arr[j + 1] = temp;
                }
            }
        }
    }

    public static void main(String[] args) {
        int[] arr = {64, 34, 25, 12, 22, 11, 90};

        System.out.println("Original array: ");
        printArray(arr);

        bubbleSort(arr);

        System.out.println("Sorted array: ");
        printArray(arr);
    }

    public static void printArray(int[] arr) {
        for (int i = 0; i < arr.length; i++) {
            System.out.print(arr[i] + " ");
        }
        System.out.println();
    }
}
```

### OUTPUT-

```
Console ×
<terminated> BubbleSort [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe (18-May-2023, 10:05:40 am – 10:05:41 am) [pid: 10212]
Original array:
64 34 25 12 22 11 90
Sorted array:
11 12 22 25 34 64 90
```