PHASE 1 PRACTICE ASSISTED PROJECT

4. Writing a program in Java implementing the selection sort algorithm

```
package main;

public class SelectionSort {
	public static void selectionSort(int[] arr) {
		int n = arr.length;

		for (int i = 0; i < n - 1; i++) {
			int minIndex = i;

			// Find the minimum element in the unsorted part of the
array
			for (int j = i + 1; j < n; j++) {
				if (arr[j] < arr[minIndex]) {
					minIndex = j;
				}
			}

			// Swap the minimum element with the first element of the
unsorted part
			int temp = arr[minIndex];
			arr[minIndex] = arr[i];
			arr[i] = temp;
		}
	}

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

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

		selectionSort(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> SelectionSort [Java Application] C:\Program Files\Java\jdk-20\bin\javaw.exe  (18-May-2023, 10:01:01 am – 10:01:01 am) [pid: 21516]
Original array:
64 25 12 22 11
Sorted array:
11 12 22 25 64
```