Counting Sort

Function and Implementation

```
fun countingSort(arr: Array<Int>): Array<Int> {
    val count = Array(100) { 0 } // Fixed size 100 for counting occurrences
    for (num in arr) {
        count[num]++ // Increment frequency of each number
    }
    return count
}
```

```
fun main() {
    val arr = arrayOf(63, 25, 73, 1, 98, 73, 56, 84, 86, 57, 16, 83, 8, 25, 81, 56, 9,
53, 98, 67, 99, 12, 83, 89, 80, 91, 39, 86, 76, 85, 74, 39, 25, 90, 59, 10, 94, 32,
44, 3, 89, 30, 27, 79, 46, 96, 27, 32, 18, 21, 92, 69, 81, 40, 40, 34, 68, 78, 24, 87,
42, 69, 23, 41, 78, 22, 6, 90, 99, 89, 50, 30, 20, 1, 43, 3, 70, 95, 33, 46, 44, 9,
69, 48, 33, 60, 65, 16, 82, 67, 61, 32, 21, 79, 75, 75, 13, 87, 70, 33)

    val result = countingSort(arr)

    println(result.joinToString(" "))
}
```

Output

```
0 2 0 2 0 0 1 0 1 2 1 0 1 1 0 0 2 0 1 0 1 2 1 1 1 3 0 2 0 0 2 0 3 3 1 0 0 0 0 2 2 1 1
1 2 0 2 0 1 0 1 0 0 1 0 0 2 1 0 1 1 1 0 1 0 1 0 2 1 3 2 0 0 2 1 2 1 0 2 2 1 2 1 2 1 1
2 2 0 3 2 1 1 0 1 1 1 0 2 2
```