**Lab 7: Hidden Sort**

**Question 1:** Below, pseudo-code for hidden sort is given:

Implement the hidden sort algorithm using this pseudo-code.

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| Let C[0..k] be a new array |
| **for** i = 0 **to** k |
| C[i] = 0 |
| **for** j = 1 **to** A.length |
| C[A[j]] = C[A[j]] + 1 |
| **for** i = 1 **to** k |
| C[i] = C[i] + C[i - 1] |
| **for** j = A.length **to** 1 |
| B[C[A[j]]] = A[j] |
| C[A[j]] = C[A[j]] - 1 |

**Question 2**: Assume that we have infinite memory. Which algorithm shows better performance in the worst case? QuickSort, MergeSort, Bubble Sort, Insertion Sort, Hidden Sort, Heap Sort? Why? Explain and compare time complexity.

**Question 3:** What is the disadvantage of the hidden sort algorithm? Can we sort any data type with Hidden sort algorithm? Explain.

**Question 4:** Modify your implementation so that your Hidden Sort method can sort the negative values.