Algorithms and Data Structures
Algorithm Assignment: Lecture 2

ID: Name:

1. Using the algorithm, Selection Sort, sort the following sequence: *A = {9, 6, 2, 8, 1, 4}* in ascending order. Let swap(*a, b*) be an operation to swap *Aa* and *Ab*.



2. Using the algorithm, Bubble Sort, sort the following sequence: *A = {3, 1, 2, 6, 9}* in descending order. You should illustrate how the algorithm works on the sequence. Let swap(*a, b*) be an operation to swap *Aa* and *Ab*.



3. Arrange the following classes of functions in ascending order of growth rate.

 *O(n)*, *O(1)*, *O(n!)*, *O(n2)*, *O(n10)*, *O(2n)*, *O(n log n)*, *O(log n)*

*O( ) 🡪 O( ) 🡪 O( ) 🡪 O( ) 🡪 O( ) 🡪 O( ) 🡪 O( ) 🡪 O( )*