Algorithms and Data Structures
Algorithm Assignment: Lecture 5

ID: Name:

1. Write a pseudocode of a recursive function which computes *n!* (factorial of *n*).

2. Merge two ordered sequences *A = {1, 3, 4, 8}* and *B = {2, 2, 5}* into an ordered sequence. You should use sentinels in your algorithm. Indicate indices (vertical bars) of *A* and *B*.

3. Illustrate a procedure of the Merge Sort algorithm based on lecture note for sorting a sequence *A = {7, 4, 3, 1, 8, 1, 9, 6, 5}* in ascending order. Fill the elements from **1** to **24** in order to follow the Divide and Conquer algorithm.