

CSC 323-01 Algorithm Design and Analysis, Spring 2020
Instructor: Dr. Natarajan Meghanathan

Assignment 6: Using the Merge Sort Algorithm to Determine the Number of Inversions and the Inverted Pairs of an Array

Due by: March 3rd, 11.59 PM

You are given the C++ code for the Merge Sort algorithm. The code as such would input the array size value, then generate/print a random array of specified size with values ranging from 1 to 50 and output the sorted array.

Your task in this quiz is to modify the code for the algorithm to determine the number of inversions in an array as well as print the inverted pairs.

After the enhancement, the output of the code should be both the initial randomly generated array and the final sorted array as well as the number of inversions in the initial randomly generated array and the inverted pairs accounting for the number of inversions.

Submission:

(1 - 90 pts) A .cpp file featuring the enhanced version of the code for the Merge Sort algorithm to determine the number of inversions in an array as well as print the inverted pairs.

(2 - 10 pts) A PDF report featuring the results of the test run of your code for the Merge Sort algorithm for an array of size 10 and maximum value as 50. Capture the output generated as screenshot and include it in the report.