CS5050 Polynomial Multiplication

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Naive vs Divide and Conquer

The naive algorithm for polynomial multiplication is faster until problem sizes of 10^6. The reason the divide and conquer algorithm is slower for small problem sizes is due to the recursive overhead. The slope of the naive algorithm is exactly 2 as is expected. However the slope for the divide and conquer is slightly less than expected at 1.57. One cause for the discrepancy could be the error in precision of the floating point math used to calculate the running times in the program.