

**CS314 Algorithms Design and Analysis, August 2016**  
**Problems in Divide and Conquer, FFT, Median finding**  
**(Chapters 4, 9, 30 of CLRS 3rd edition)**

Hand in solutions to the problems on or before September 12, 2016. The solution you hand in must be your own even if you discussed with others. If you do discuss with others or use other resources, please acknowledge. If you copy or let someone copy, then your answer sheet and further submissions (including tests) will NOT be evaluated.

1. Exercise 9.3.6 (finding quantiles)
2. Exercise 9.3.7 (Finding  $k$  closest numbers to the median)
3. Exercise 9.3.8 (Finding the median of two sorted lists)
4. Exercise 30.1.7 (cartesian sum)
5. Exercise 30-2 (Multiplying Toeplitz Matrices)
6. (Practice problem: No need to hand in) Exercise 4-6 (Monge Arrays)
7. (Practice problem: No need to hand in) Exercise 4-3 (Recurrence relations)