

Introduction To Algorithms
CS430

Spring 2013
HomeWork 5
Due 25th February

1. **Problem 1:** Problem 8-6 (Pg 208) CLRS(3rd Edition).
(20)
2. **Problem 2:** Using the version of heapsort as defined in CLRS (Chapter 6-4), show an example where heapsort requires $\Omega(n \log n)$ steps.
(10)
3. **Problem 3:** Consider radix sort with numbers (using base 10) that are variable length. Show that you can output any number as soon as you have considered all its digits.
Design a method to sort in $O(n + k)$ time where k is the total number of digits in all the numbers.
(20)
4. **Problem 4 (Bonus):** Problem 8-4 (pg 206) CLRS(3rd Edition)
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