1. In the Covex-Hull algorithm, we assumed that no two points have the same $x$ or $y$ coordinate. Now, suppose there are points that may have the same $x$ or $y$-coordinate. Will the algorithm still work? If not, how to make it work?

2. Write a divide-and-conquer algorithm Power($a, n$) that computes the number $a^n$. What is the time complexity of your algorithm? Your algorithm must work in $o(n)$, little o of $n$, time.

3. Show the array that would result if we apply the Lumoto partition (just once) to the following array: $(5, 4, 3, 2, 1, 6, 7, 3, 4)$. 

(CSE2331 Homework 4
Due: Friday, September 28 by class time

(A heads-up: HW5 will be due on Wednesday, October 3)

Midterm: Monday, October 8.

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