

CS 6901 Capstone Exam Systems Fall 2011: Choose any 2 problems.

CS 6901 Capstone Exam Data Structures & Algorithms Fall 2011  
Choose any 2 problems. Exam length: 90 minutes

1) Let  $a[0], \dots, a[n-1]$  be an array of ints with  $a[0] < a[1] < \dots < a[n-1]$ . Write a  $O(\log n)$  runtime iterative search algorithm that looks for an integer  $x$  and returns the index of its first occurrence in the array. Return -1 if it is not found.

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$$\sum_{i=1}^l y_i$$