

Homework 5

CS 3343 – Fall 2006
Tom Bylander, Instructor

assigned September 21, 2006
due October 6, 2006

Your solutions must be submitted as a document to WebCT.

1. (20 pts.) Do Exercise 4.1.5.
2. (20 pts.) Do Exercise 4.2.8. Use pseudocode in the book's style for your algorithm. Indicate the time- and space-efficiency of your algorithm.
3. (20 pts.) Write a binary search algorithm that only uses \leq and only uses it once per iteration. Use pseudocode in the book's style for your algorithm.
4. (20 pts.) Provide and solve a recurrence for your binary search algorithm above.
5. (20 pts.) Consider Exercise 4.6.10 (which might be very useful here in view of the construction fencing). What does the shortest path look like? What are the possible cases? How can you differentiate between them? Hint: One case is that a straight line between A and B doesn't go through the convex polygon.