

CSE 521: Design and Analysis of Algorithms
Assignment #0
January 5, 2006
Due: Tuesday, January 10, 2006

Reading Assignment: Kleinberg and Tardos, Chapters 1 and 4

Questions:

1. For each of the following topics, indicate your level of comfort on a scale of 1-5, where 1 means “I’ve never been exposed to this” and 5 means “I’m completely comfortable and knowledgeable about this material”.
 - basic graph traversal and algorithms, such as depth-first search and breadth-first search, connected components, Finding an articulation point in an undirected graph, etc.
 - Dijkstra’s shortest path algorithm.
 - Minimum spanning tree algorithms (Prim’s and Kruskal’s).
 - Technique of divide and conquer.
 - Dynamic programming.
 - Basics of maximum flow, such as max-flow=min-cut and augmenting path algorithms.
 - Algebraic algorithms (FFT, primality testing, etc.).

- Randomized algorithms (what have you been exposed to here?).
- Linear programming (definition, simplex algorithm, duality theory).
- Approximation algorithms (of NP-hard problems).

2. What book did you use in your undergraduate algorithms course?
3. What do you hope to get out of this class (other than fulfilling a quals requirement)? Are there any particular topics you'd like to see covered?