

Math 320 – Computer Methods in the Mathematical Sciences I.

Project Title: Linear Programming: The Simplex Method and Beyond.

Authors: Rohan Saraogi and Mihir Trivedi

1 Presentation

Comments:

- Good examples.
- Nice intuition provided for maximizing at vertices using the graphical method.
- The “proof strategy” display was very nice.
- The explanation of how the simplex method worked was a bit unclear.
- The description of Karmarkar’s algorithm was (understandably) rushed.
- The presentation was too long – time should have been strategized.

Grade: 8.5/10

A very nice presentation of a difficult topic. The talk was not quite aimed at the audience, and there were issues with timing. Still, a very engaging and sophisticated talk.

2 Paper

Comments:

- Nicely organized into sections.
- Some typos scattered throughout.
- Very nicely done examples of transforming the simplex tableau (p. 9).
- Karmarkar Assumptions section 3.2 is a bit unclear.
- The formulation of the iterative algorithm in Section 3.3 is very nice, and the example is well executed. It would have been nice to see a closer analysis of the complexity of the iterative algorithm.
- The concluding remarks are interesting, though not quite on the same theme as the rest of the paper.

Grade: 9/10

Well written paper on a difficult topic. The breadth of material on algorithms for linear programming was very impressive. The paper could have been more polished but it represents some serious research. Well done!