Math 320 – Computer Methods in the Mathematical Sciences I.

Project Title: Finite Difference Method

Authors: Rongrong Liu

1 Presentation

Comments:

- The images of displayed equations were blurry (Jpeg is not your friend!)
- Nice idea to draw the grid on the board and to work through an example.
- Great chalkboard work!
- Not quite enough explanation of the heat equation background (could have used some more detail of the problem, before the solution method.)

Grade: 8/10
Very nice chalk talk, with great computation, though short on background and context.

2 Paper

Comments:

- Well done outlining the paper in the introduction.
- Where are the images from? Citation should be made.
- Nice job with the derivation of equations in Section 2.
- Where does Laplace's equation come from? What kind of functions U satisfy this equation?
- Couldn't the system of equations on p 5 - 6 have been solved even without splitting the boundary into four parts? Does this way save computation time?
- Truncation error analysis is a good idea, but it's not clear how to interpret your results. Some sentences about what these error terms mean for the approximation would be very helpful.
- The conclusion is nice, but the ideas you mention didn't appear in the rest of the paper.

Grade: 7.5/10
This paper has good computations and looks at a range of problems, but there is not enough explanation or motivation.