README

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1 Methodology

- The following document has been referred by Carnegie Melon University to apply the Finite difference method on the Laplace Equation and "Numerical Methods" by R. K. Jain to solve the system of equations.

- Array 't' has been assigned values 0, size (N+2, N+2) throughout except the boundary conditions (top and bottom surface=1). N is the number of points between the boundaries along an axis excluding the boundaries.

- The Gauss-Seidel method is used to calculate the values of the intermediate coordinates until the error reaches a satisfactory threshold.
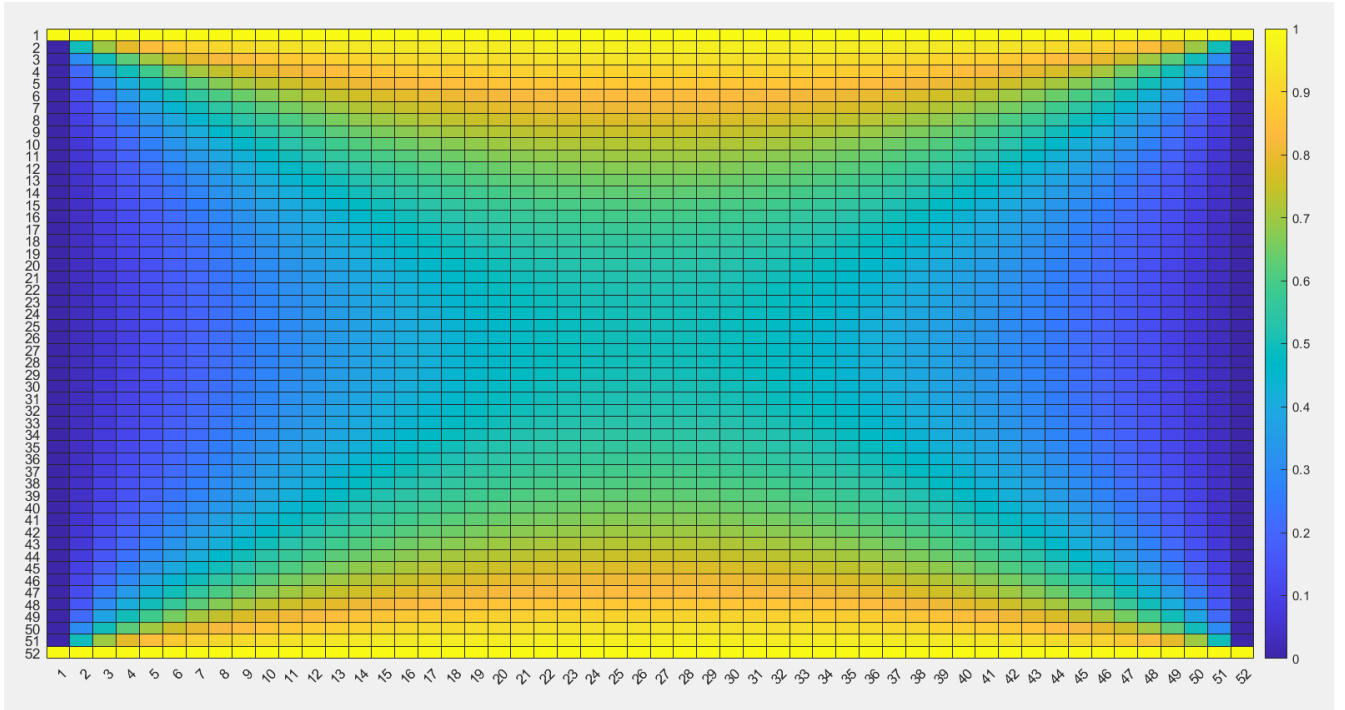
$$error^i = |x_{new}^i - x_{old}^i| \tag{1}$$

i being the iteration number.

Figure 1: Heatmap for 52 X 52 grid