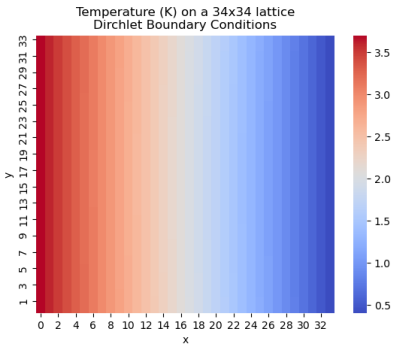
Computational Physics - PH3264

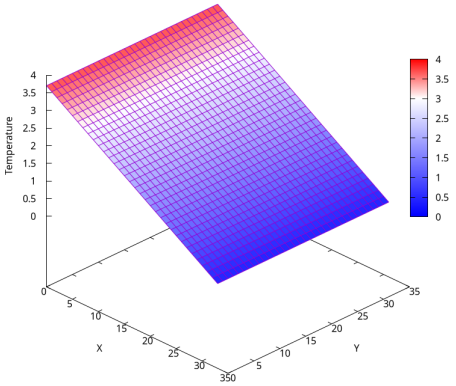
Module 4 - Partial Differential Equations

Krishna Iyer V S **Roll:20201017**

1. The question boils down to 1-D lattice/rod with fixed temperatures at both ends. Recasting the problem and solving it analytically, we obtain T(20,20)= 1.8 K. The value at (20,20) obtained computationally is 1.78996. The value The heatmap and the 3-D plot have been shown in Figure 1a and 1b respectively.

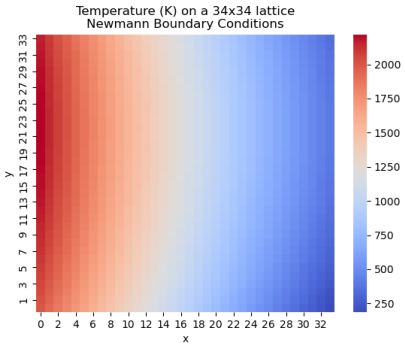


(a) Heatmap Q1

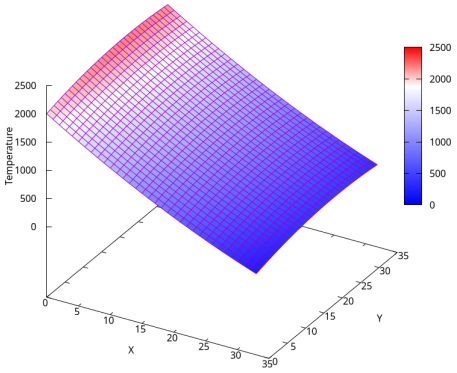


(b) 3-D Plot for Q1

2. The value of the function at (20,20) is 1550 K.



(a) Heatmap Q2



(b) Heatmap Q2