Department of Applied Mechanics, IIT Madras

19-08-2025 **AM5630 Foundations of CFD** **V. D. Narasimhamurthy**

Deadline 26-08-2025 **Assignment-1** **[10 Marks]**

Instruction: The task can be carried out individually or in groups of two, and should be presented orally (**code demonstration in the class**) and **upload the code on moodle**. Late submissions carry a minor penalty. Plagiarism checks will be performed on all code.

1. Generate a 2D mesh as shown in Figure 1, where $\Delta x = \Delta y$, i.e. equidistant mesh or maintain constant grid size.

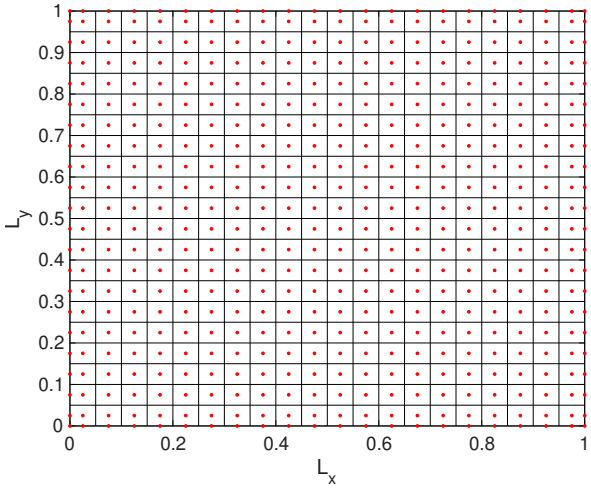

Figure 1: Equidistant mesh.

2. Now stretch the mesh as shown in Figure 2, where Δx and Δy are varying in size.

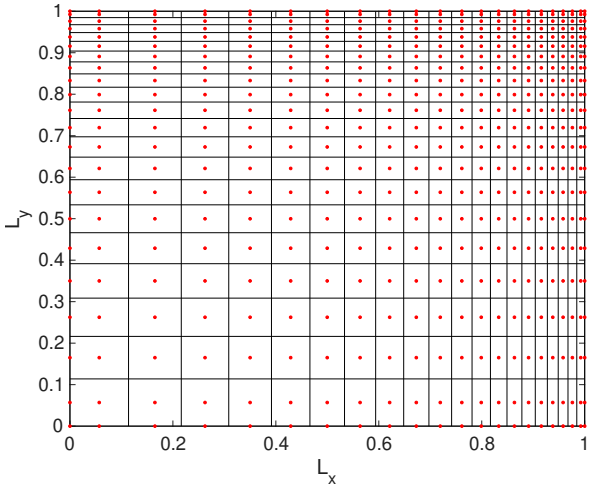

Figure 2: Stretch mesh.