

ME415: Computational Fluid Dynamics & Heat Transfer**Assignment # 4: Curvilinear Grid Generation and Heat-Conduction for Complex Geometry****Problem # 1: Curvilinear Grid Generation**

a) Plot the (a) O, (b) C and (c) H type grid. (3 figures).

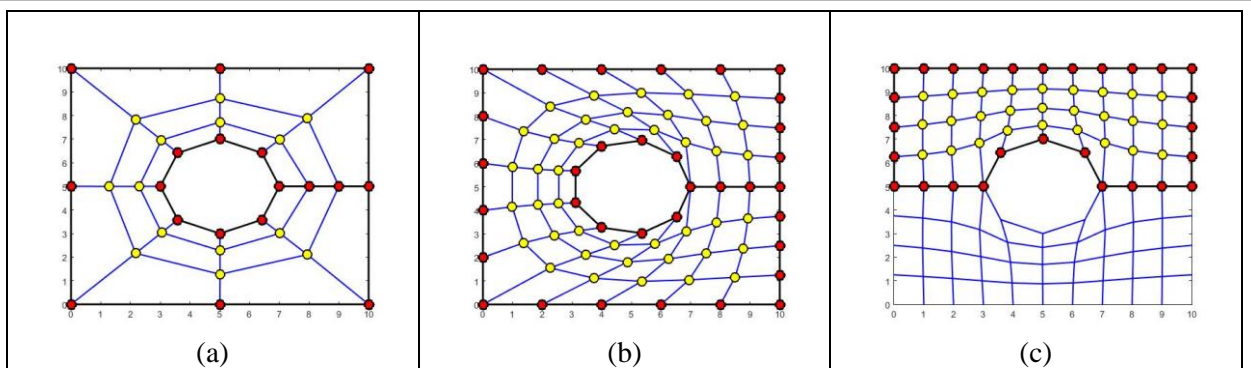


Fig. 4.1: For heat conduction in a square plate with a circular hole, different types of elliptic PDE based curvilinear grid: (a) O, (b) C and (c) H type.

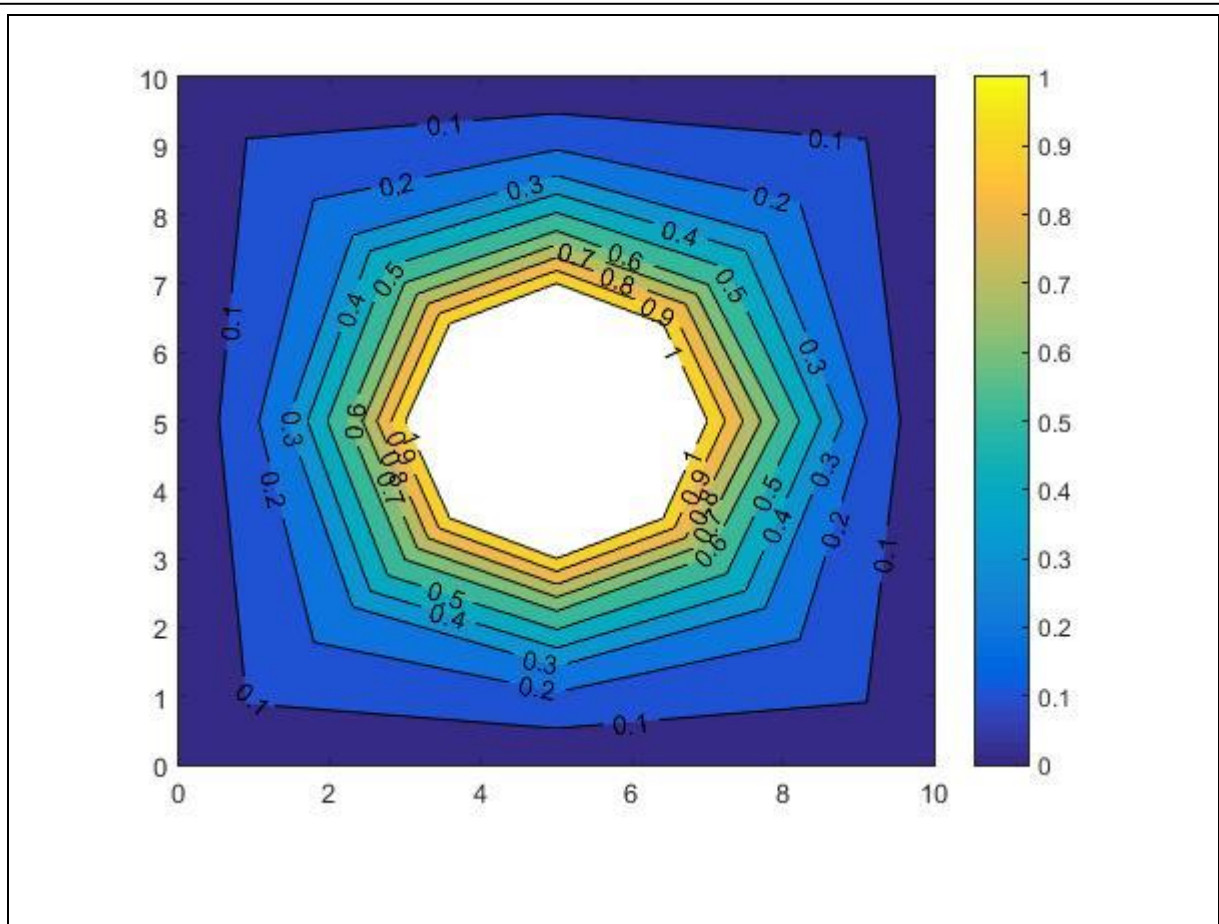
Problem # 2: Unsteady Heat Conduction in a Square Plate with Circular Hole:

Table 4.1: Heat transfer from hole and outer boundary of square plate.

Boundary	Q
Inner: Hole	99.0994
Outer: Plate	98.3345