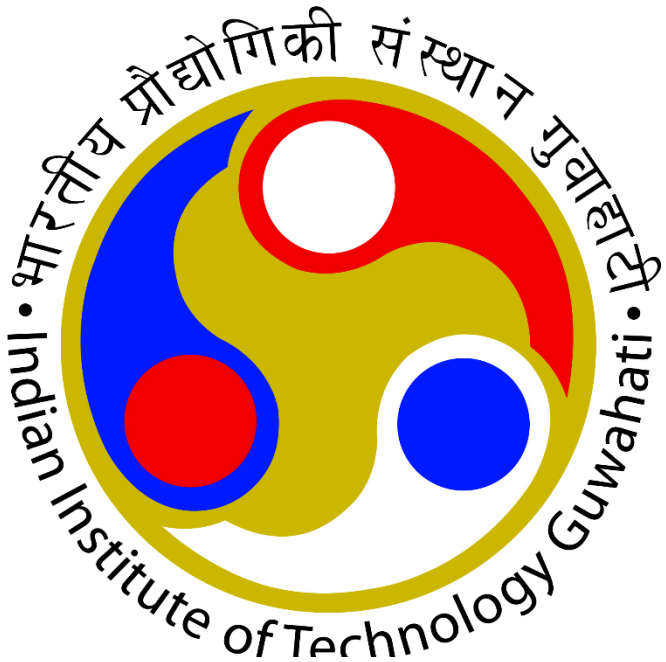
COMPUTATIONAL FLUID DYNAMICS
ASSIGNMENT-4



Submitted by,
AMIT KUMAR
ROLL NO. : 224103303
FLUID & THERMAL

Given :-

Top wall velocity = 1 m/s

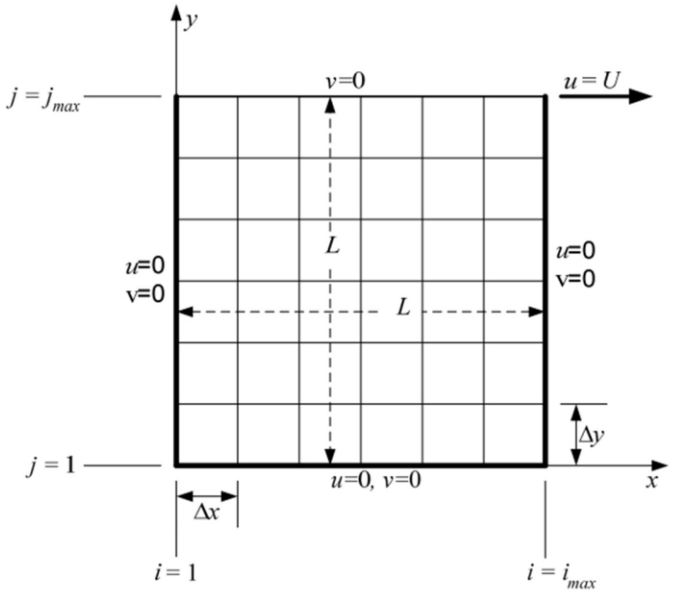
Bottom wall velocity = 0

Left wall velocity = 0

Right wall velocity = 0

Length of Horizontal wall = H = 1m

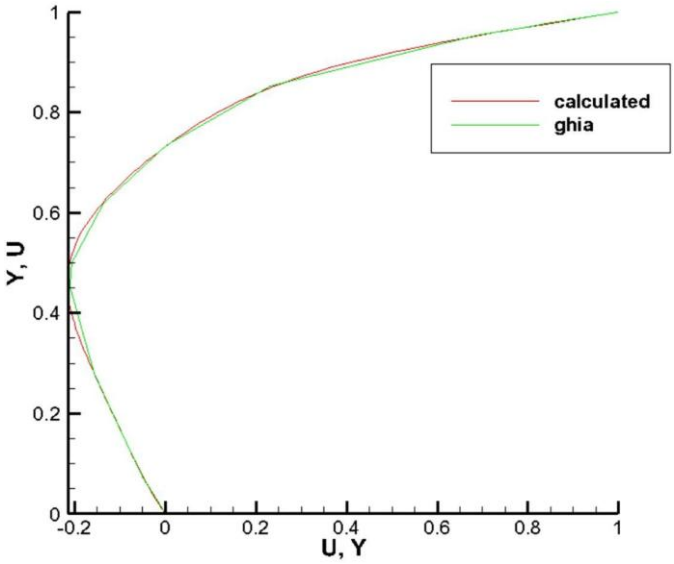
Length of Vertical wall = V = 1m



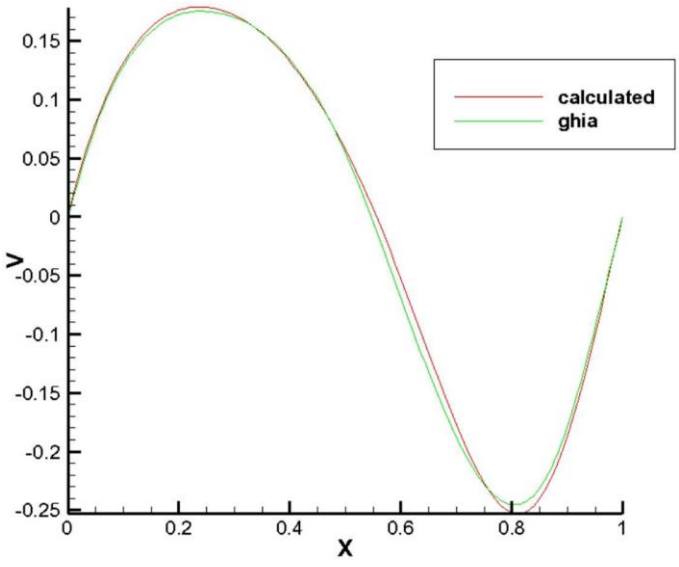
Lid-driven square cavity with grid, Re = LU/ν

Case 1: Reynlods Number = 100 :-

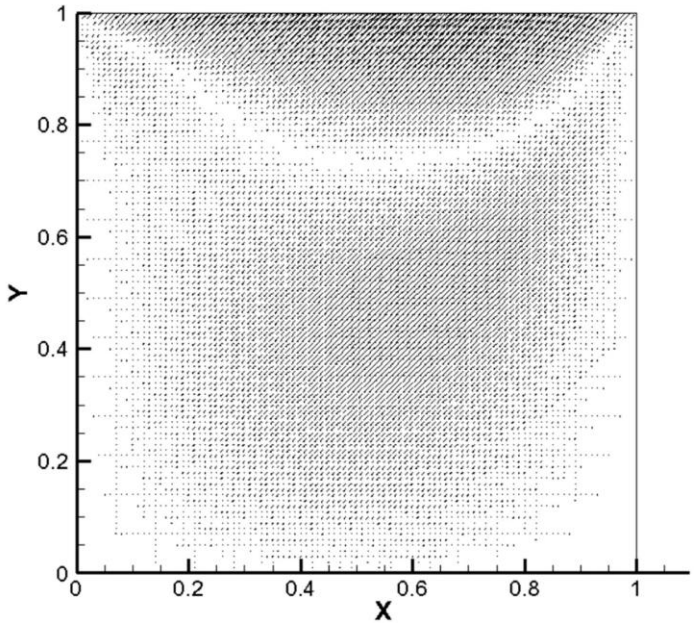
1) Central line horizontal velocity (u):-



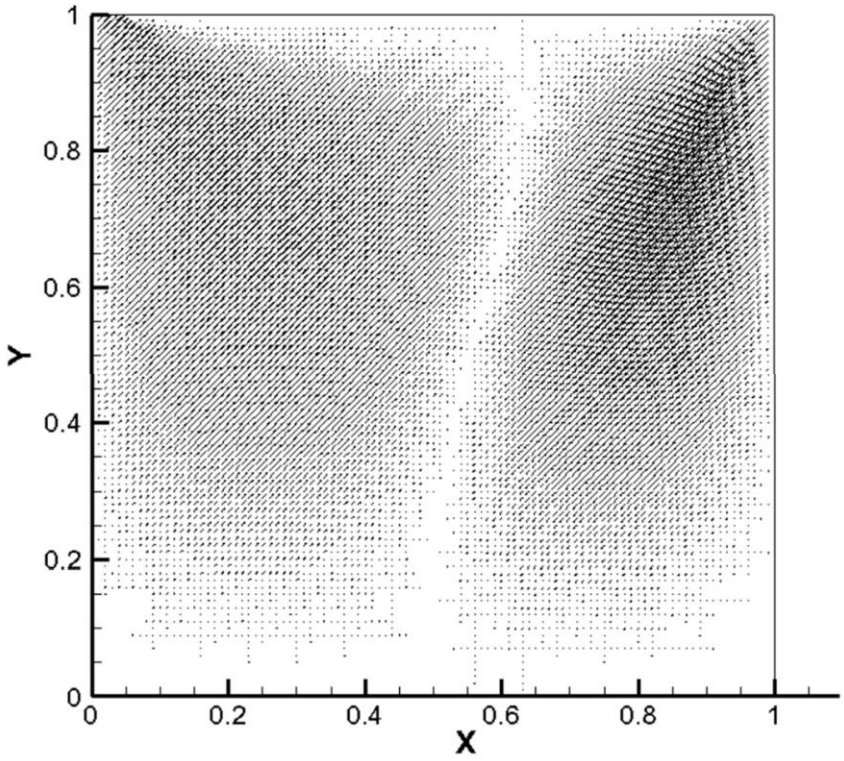
2) Central line Vertical velocity (v):-



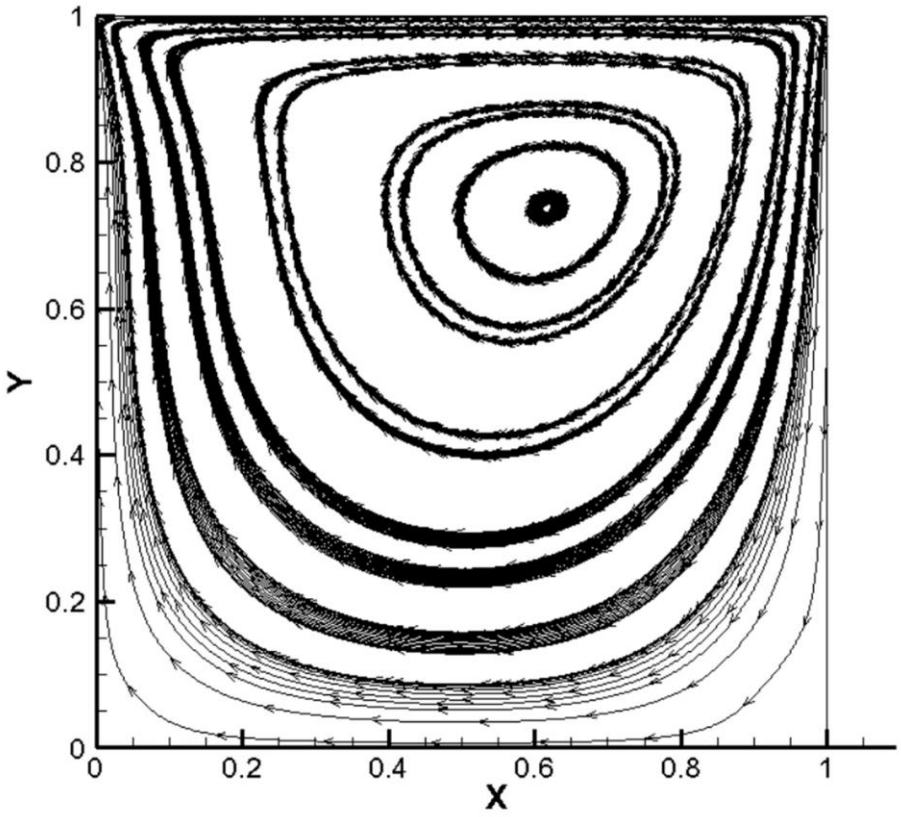
3) U vector plot:-



4) V vector plot:-

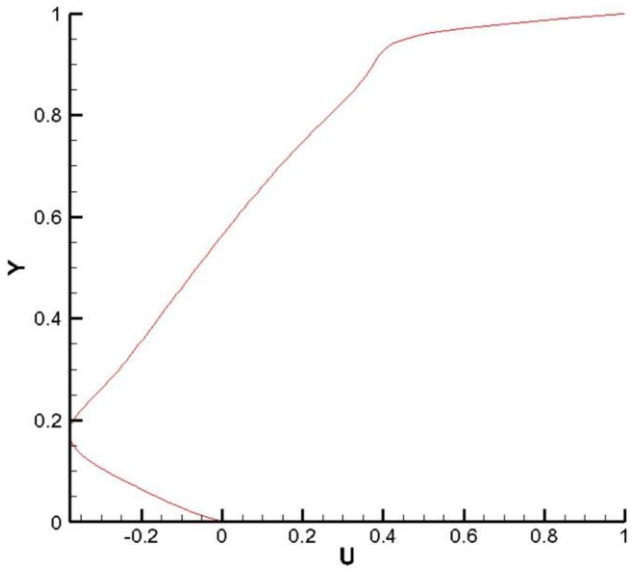


5) Streamline plot:-

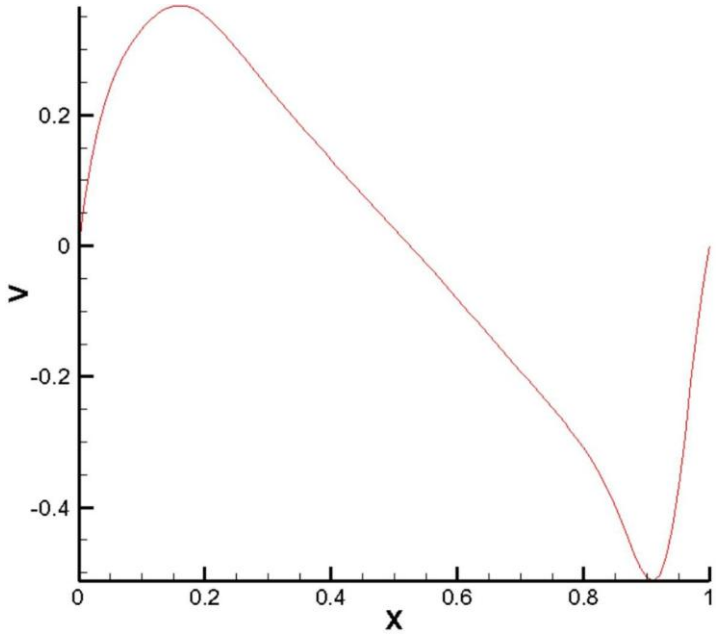


Case 2: Reynlods Number = 1000 :-

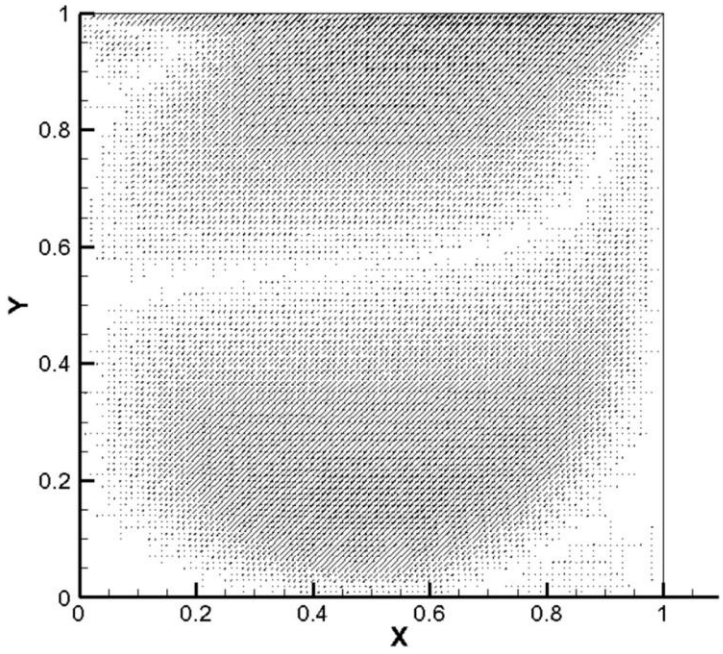
1) Central line horizontal velocity (u):-



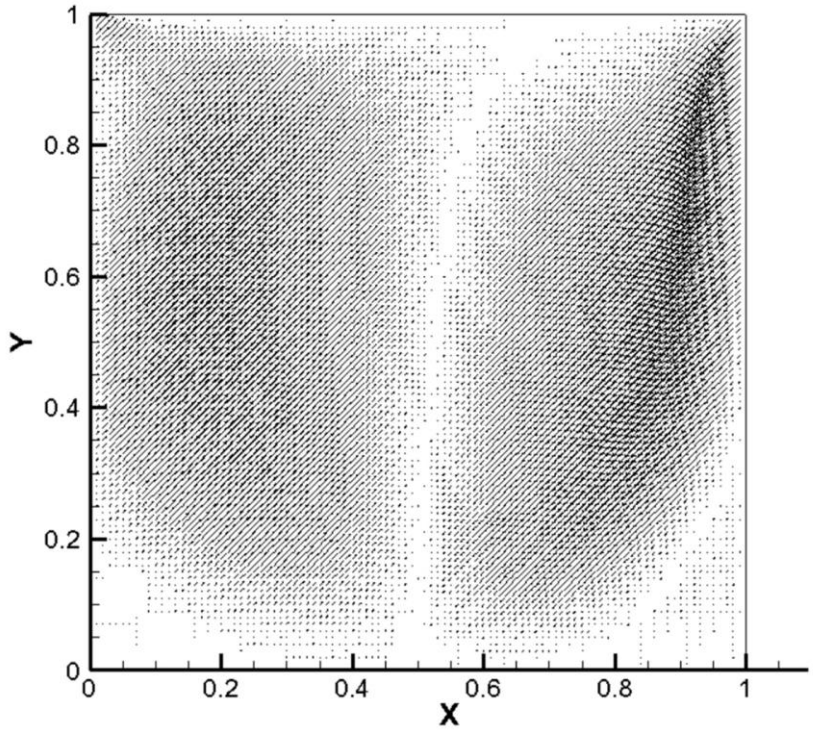
2) Central line Vertical velocity (v):-



3) U vector plot:-



4) V vector plot:-



5) Streamline plot:-