CFD OpenFOAM LAB

Assignments

CL455
Chemical Engineering Department

FOSSEE
IIT Bombay

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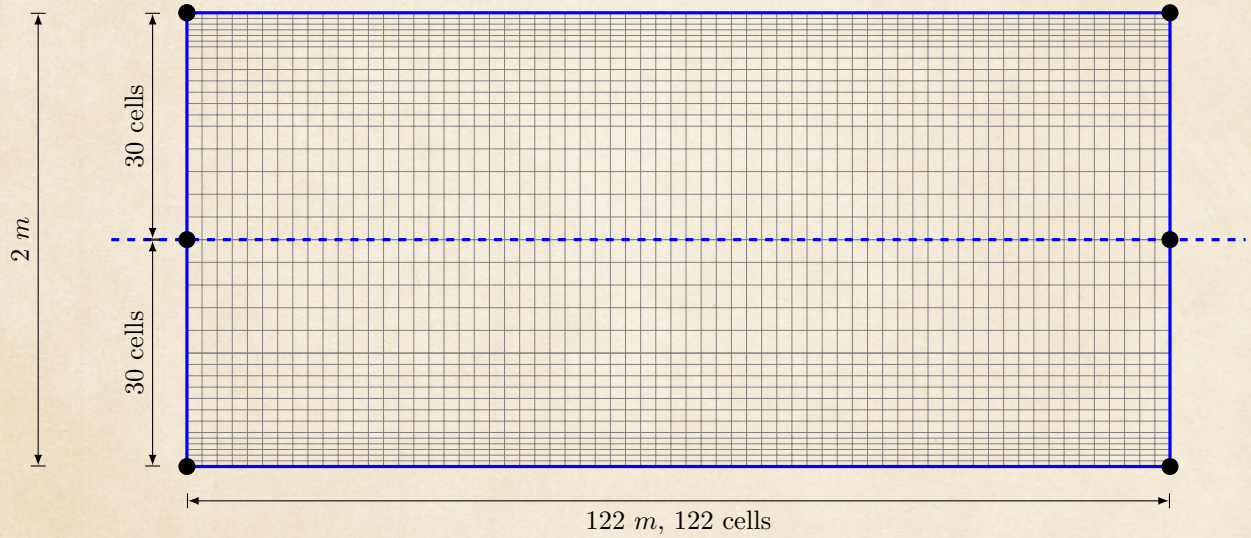
Assignment 1: Post-Processing of pipe using paraview

For the last week's assignment no. 2, generate velocity(x & y axis) and pressure(x-axis) graphs using paraview and save screenshot. Also save screenshot of streamline and clipped velocity profile.

Assignment 2: Simulation of a 2D Turbulent Flow in a Channel

For the given geometry and boundary condition, simulate a 2D turbulent flow in a channel using $\kappa-\epsilon$ turbulence model. Calculate turbulence parameter and expansion ratio for both blocks as per your roll no. Y^+ for your roll no. is given below geometry. Submit case files, velocity profile screenshot at outlet and calculation of turbulence parameters and expansion ratio pdf in a single .zip file.

inlet velocity = 35 m/s
outlet pressure = 0 pa
kinematic viscosity = 1e-05 m^2/s



Last digit of roll no.	Y^+
0	50
1	75
2	85
3	120
4	135
5	175
6	210
7	230
8	245
9	285

Note: Go through Additional Reading Material for detailed steps of Y^+ and Turbulence parameter calculations.