CFD 2Task 2
SHOCK CAPTURING METHOD

Task 2. Shock Capturing Method

Statement :

- Obtain a solution of quasi one dimensional compressible flow for a converging diverging duct
- Define a function of area, length of duct and boundary condition (case / operating condition) and calculate the analytic result. Each student should provide a function of area.
- Use the Mac Cormack scheme for discretizing the above PDE equation

Detail Task

1. Deriving the quasi one dimensional compressible flow and the discretized equation based on Mac Cormack Scheme
2. Draw the geometry shape of convergence divergence duct from the defined area function
3. Obtaining an algorithm for the Mac Cormack scheme
4. Making the numerical coding that can be obtained isentropic or non isentropic solution
5. Presenting the results of the flow properties such as Mach number, velocity, static pressure, static temperature and density
6. Making analysis and Writing the report.