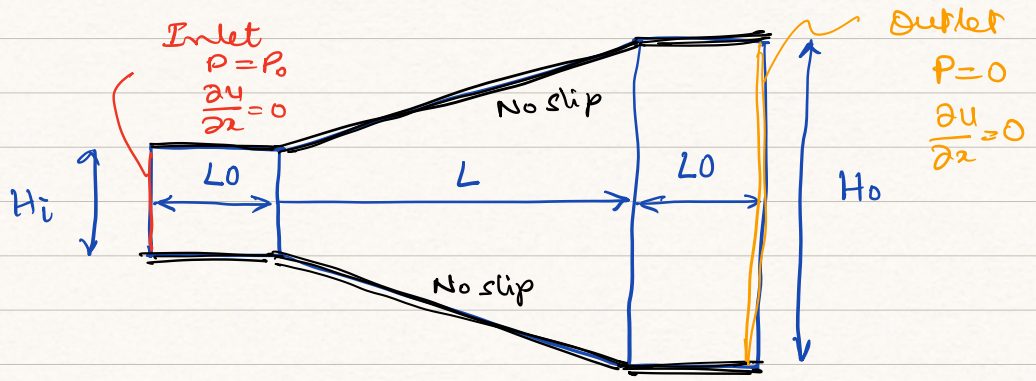
Flow in a diverging channel

The system geometry is as given below



- Use icoFoam to solve for flow.

- For a given geometry: use a Δt that gives a stable flow and a mesh that is fine enough so that the flow is mesh independent.

- For a given geometry use different values of p_0 to obtain ΔP versus flow rate curves for the flow.

- For a fixed value of p_0 use different values of H_i to study how the flow rate varies. Use a large enough value of p_0 so that $Re \gg 1$ but the flow is laminar

- Obtain streamlines for the flow and check for boundary layer separation.

Note: Solve only for laminar flow.
p in the simulations is P/ρ.