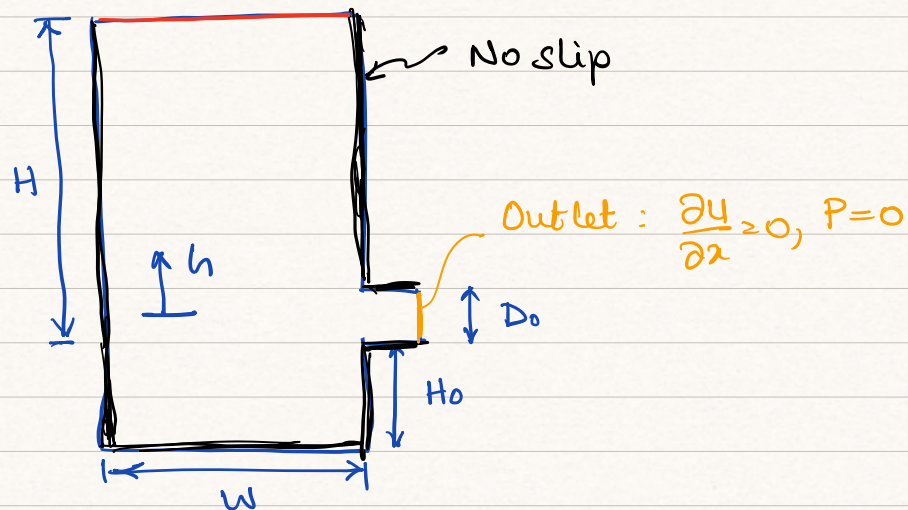


Flow from a tank

The system geometry is as given below

$$\text{Top: } P = g(H - D_0/2).$$



Note: In this case, gravity is included in the pressure as $p = \left(\frac{P}{\rho} + gh\right)$, where h is the height above the middle of the exit. ($D_0/2$).

- Use icoFoam to solve for laminar flow.
- Use pisoFoam to solve for flow.
- For a fixed geometry: use a St that gives a stable flow and a mesh that is fine enough so that the flow is mesh independent.
- For a fixed tank geometry, vary the orifice diameter (D_0) and study how the velocity at the exit changes for laminar and turbulent flows. Compare to predictions of the Bernoulli equation.

- For a fixed D_0 compare the streamline lines in the tank and near the exit for laminar and turbulent flow.