$\rho \frac{D}{Dt}(\vec{V}) = 0$ → For creeping flow

Flow Type

① Rectilinear flow, steady state, Lamina

② Rectilinear, one directional flow, steady state, Laminar, ρ & μ = constant

③ Unsteady state flow
$v = v(t, x, y, z)$,
ρ & μ cott.

④ Boundary layer flow
→ Fluid flow near the solid surface

⑤ Potential flow
→ Flow far from the solid surface

Solution Methods.

Shell momentum balance

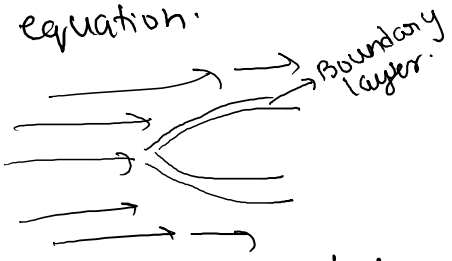
Navier Stoke's Equation

Navier Stoke's Equation

① Semi Infinite fluid → combination of variables

② Bounded fluid
Separation of variables.

Von-karman Integral equation.



Using velocity potential