Displacement condition

$$
\begin{cases}
\dfrac{\partial S_{11}}{\partial x_1} + \dfrac{\partial S_{21}}{\partial x_2} + \dfrac{\partial S_{31}}{\partial x_3} + \rho b_1 = \dfrac{\partial^2 (\rho u_1)}{\partial t^2} \\[3mm]
\dfrac{\partial S_{12}}{\partial x_1} + \dfrac{\partial S_{22}}{\partial x_2} + \dfrac{\partial S_{32}}{\partial x_3} + \rho b_2 = \dfrac{\partial^2 (\rho u_2)}{\partial t^2} \\[3mm]
\dfrac{\partial S_{13}}{\partial x_1} + \dfrac{\partial S_{23}}{\partial x_2} + \dfrac{\partial S_{33}}{\partial x_3} + \rho b_3 = \dfrac{\partial^2 (\rho u_3)}{\partial t^2}
\end{cases}
$$

And respect the boundary conditions:
- Displacement
- Boundary stresses
- Boundary Forces
- Body Forces

How do we relate stresses to displacements?
- Displacements → Strains (**Kinematic equations**)
- Strains → Stresses (**Constitutive equations**)