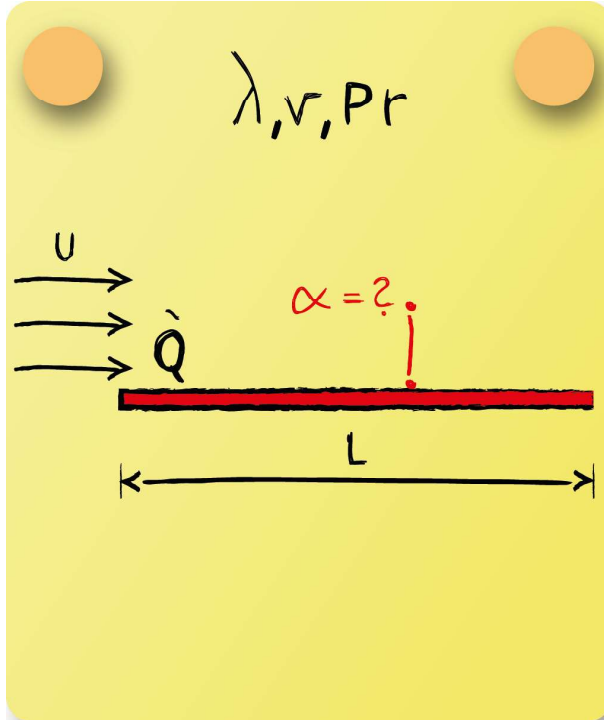


Heat Transfer Correlation 2.1



A fluid streams over a flat plate.
Calculate the mean heat transfer coefficient $\bar{\alpha}$.

Reynolds number:

$$\text{Re}_L = \frac{u \cdot L}{\nu} = 6.51 \cdot 10^4$$



Nusselt number:

$$\text{Nu}_L = 0.664 \cdot \text{Re}_L^{\frac{1}{2}} \cdot \text{Pr}^{\frac{1}{3}} = 151.53$$

Heat transfer coefficient:

$$\bar{\alpha} = \frac{\text{Nu}_L \cdot \lambda_f}{L} = 0.78 \text{ W/m}^2\text{K}$$