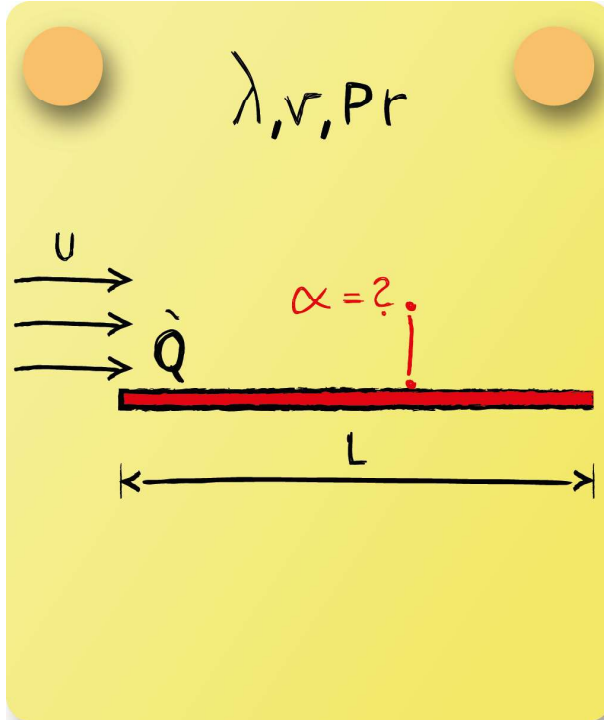


Heat Transfer Correlation 2.3



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

Reynolds number:

$$\text{Re}_L = \frac{u \cdot L}{\nu} = 1.52 \cdot 10^4$$



Nusselt number:

$$\overline{\text{Nu}}_L = 0.664 \cdot \text{Re}_L^{\frac{1}{2}} \cdot \text{Pr}^{\frac{1}{3}} = 133.40$$

Heat transfer coefficient:

$$\bar{\alpha} = \frac{\overline{\text{Nu}}_L \cdot \lambda_f}{L} = 84.17 \text{ W/m}^2\text{K}$$