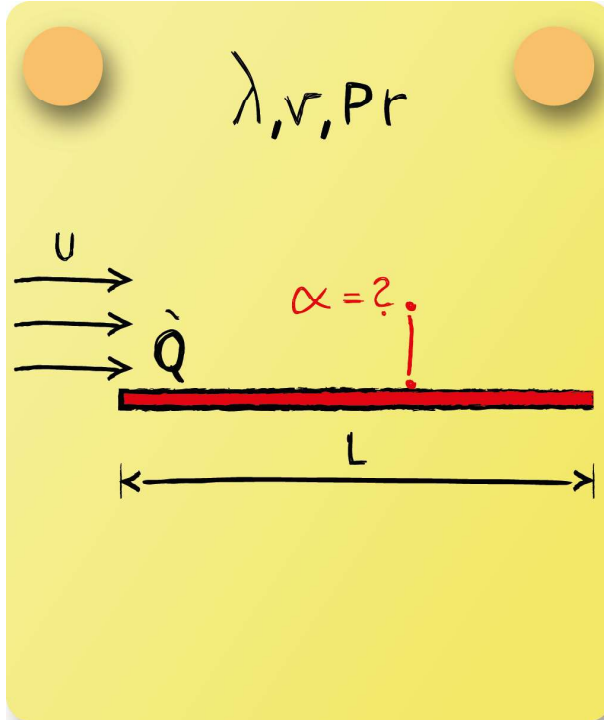


## Heat Transfer Correlation 2.5



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

Reynolds number:

$$Re_L = \frac{u \cdot L}{\nu} = 1.85 \cdot 10^3$$



Nusselt number:

$$\overline{Nu}_L = 0.664 \cdot Re_L^{\frac{1}{2}} \cdot Pr^{\frac{1}{3}} = 25.57$$

Heat transfer coefficient:

$$\bar{\alpha} = \frac{\overline{Nu}_L \cdot \lambda_f}{L} = 0.247 \text{ W/m}^2\text{K}$$