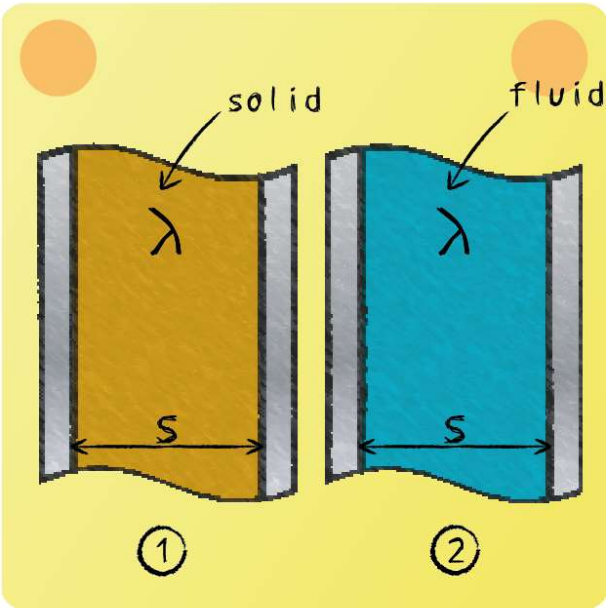
Lecture 11 - Question 3



Which of the two situations has the lowest thermal resistance?

Situation 2 has the lowest thermal resistance. Even though in both cases the thermal conductivity is identical, the rate of heat transfer is enlarged because of convection in situation 2. As both cases are under identical thermal circumstances, the thermal resistance in situation 2 should be lower. Remember the following equation:

$$R = \frac{\Delta T}{\dot{Q}}$$