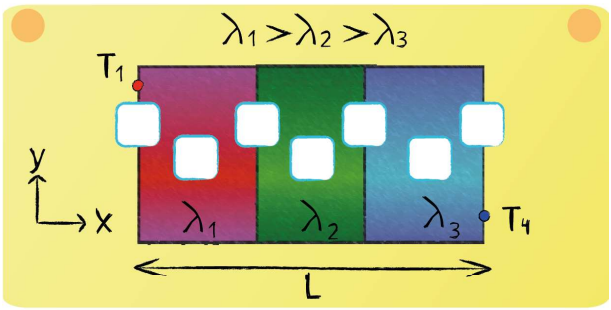
Lecture 4 - Question 8



Give temperature profile for the following case. Assume one-dimensional steady-state heat transfer.

Since the highest temperature is given to be on the left, the temperature profile should decrease linearly from that point on, for a wall.

This decrease continues as x increases.

At the intersection the gradient should become steeper, this because the conductivity decreases and so does the thermal resistance.

After the intersection the temperature should decrease linearly again.

At the second intersection the gradient should become steeper, this because the conductivity decreases and so does the thermal resistance.

After the second intersection the temperature should decrease linearly again.

At the right the temperature is the lowest and for that reason it should end with a linear decrease.