# Week 1 Assignment

**Question:**
A short summary about the conductive heat transfer and solving the same exercise with L= 0.4 m, A= 20 m2, DeltaT= 25, and k=0.78 W/m K using both simple method and using the resistance concept.

**Short Summary:**
Heat transfer through a wall is proportionate with its area and to the difference of temperature and conductivity, but it is inversely proportional to the thickness of this wall.

**Method 1:**

$$Q\ cond, wall = kA\frac{T1-T2}{L} = 0.78 * 20\ \left(\frac{25}{0.4}\right) = 975\ W$$

**Method 2 Thremal Resistance Concept:**

$$R\ wall = \frac{L}{kA} = \frac{0.4}{0.78 * 20} = 0.0256\ K/W$$

$$Q\ cond, wall = \frac{T1 - T2}{R} = \frac{25}{0.0256} = 975.6\ W$$