**Case 1: Heat Flow application**

Let q in cal/sec be the constant quantity of heat flowing through an area in cm2 perpendicular to the direction of flow per second, let u in oC be the temperature at a point P of the body, and let x in cm be the distance, taken as positive in the direction of flow, from some point chosen as origin to the point P. Then, the magnitude of q will be:

$$q=\frac{2πKL(u\_{1}-u\_{2})}{ln⁡(\frac{X\_{2}}{X\_{1}})}$$

K is the thermal conductivity in cal (sec cm Co 

Simulate the above equation using Simulink assuming:

u1=25:0.1:100; L=30; K=0.92; u2=20; x1=0.8; x2=1;

**Case 2: Renewable energy application**

Choose either the PV or wind turbine models you have learned during this course. Simulate it using Simulink and compare achieved results with your previous Matlab simulation.