Calculate the following 2D boundary problem by FreeFEM and visualize your result.

$$\begin{cases} -\Delta u(\mathbf{x}) = f & \text{in } \Omega, \\ u(\mathbf{x}) = 0 & \text{on } \Gamma_D, \\ \nabla u(\mathbf{x}) \cdot \mathbf{n} = \bar{q} & \text{on } \Gamma_Q, \\ \nabla u(\mathbf{x}) \cdot \mathbf{n} = 0 & \text{on } \Gamma_N, \end{cases}$$

where $\mathbf{x} = (x, y) \in \Omega \subseteq \mathcal{R}^2$, f and $\bar{q}$ are constant non-zero values and $\mathbf{n}$ is the normal unit vector. Note that the geometry and parameters are set by your own.

Ref: https://doc.freefem.org/tutorials/heatExchanger.html