Spectral elements method

1D

Dowload the `hw2.m` file and solve the same problem as in homework one. How are the errors between $\mathbb{Q}_1$, $\mathbb{Q}_2$ and various degrees for the SEM compare?

2D

Solve a Dirichlet problem with the code provided in class. The domain needs to be rectangular and the Dirichlet condition non-trivial.

Use:

$$\alpha u - \Delta u = f \text{ in } \Omega \tag{1}$$

$$u = g \text{ on } \partial\Omega \tag{2}$$

with $\alpha = 1$ and decide of f.