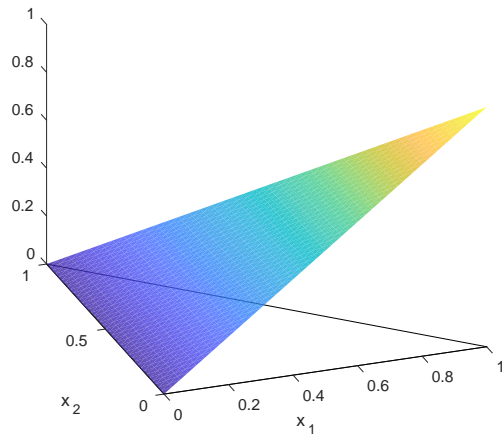


# Numerical Methods for Partial Differential Equations

## Some local shape functions

Local shape function #2 of Linear Lagrange Element



Local shape function #3 of Linear Lagrange Element

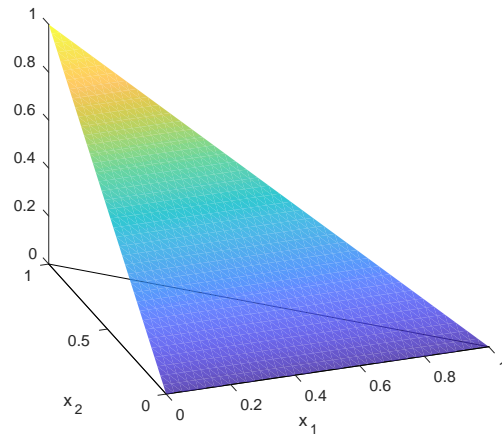
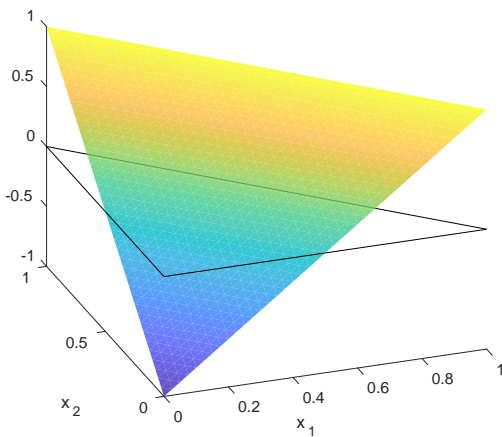


Figure 1: Some local shape functions for a  $\mathbb{P}_1$  element on a triangle

Local shape function #1 of Linear Crouzeix-Raviart Element



Local shape function #2 of Linear Crouzeix-Raviart Element

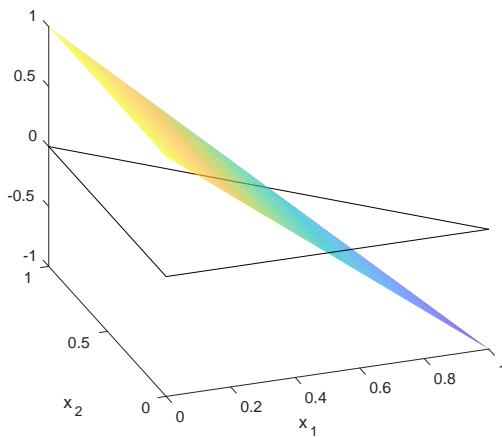
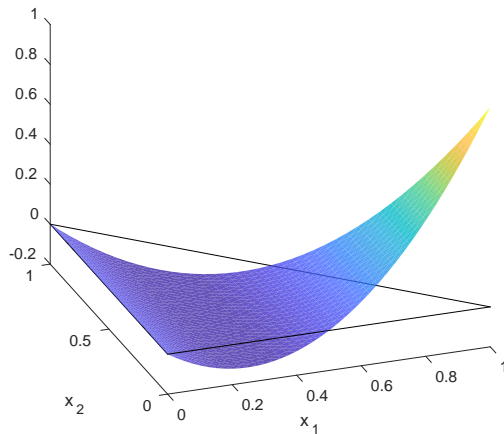


Figure 2: Some local shape functions for a Crouzeix-Raviart element on a triangle

Local shape function #2 of Quadratic Lagrange Element



Local shape function #6 of Quadratic Lagrange Element

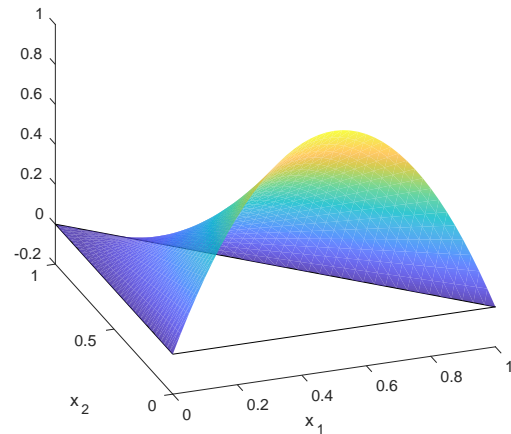
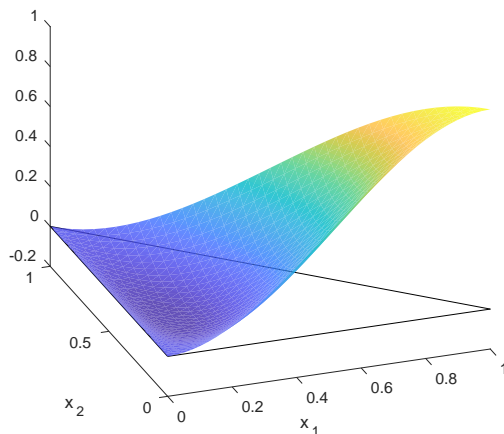
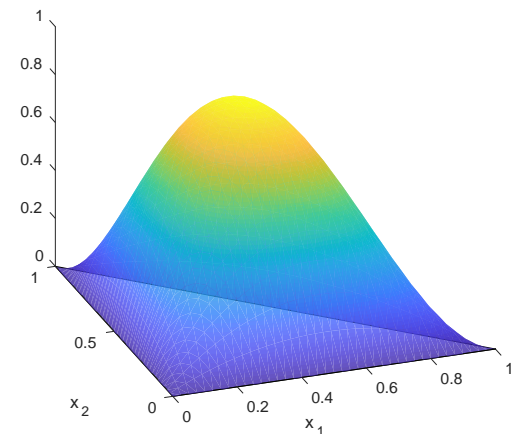


Figure 3: Some local shape functions for a  $\mathbb{P}_2$  element on a triangle

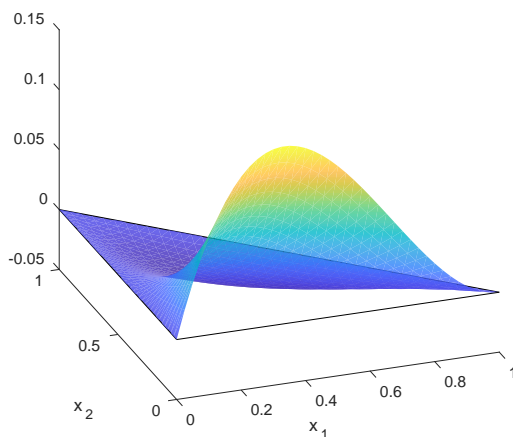
Local shape function #2 of Cubic Hermite Element



Local shape function #10 of Cubic Hermite Element



Local shape function #8 of Cubic Hermite Element



Local shape function #9 of Cubic Hermite Element

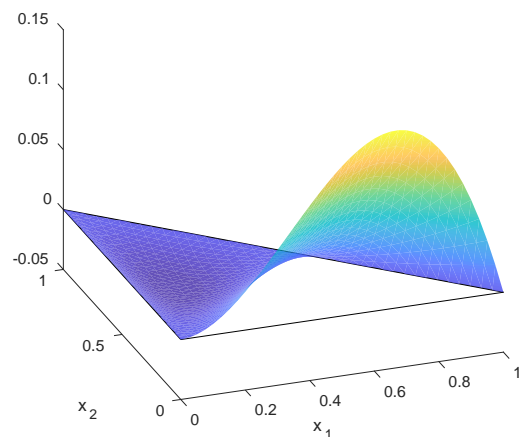


Figure 4: Some local shape functions for a cubic Hermite element on a triangle