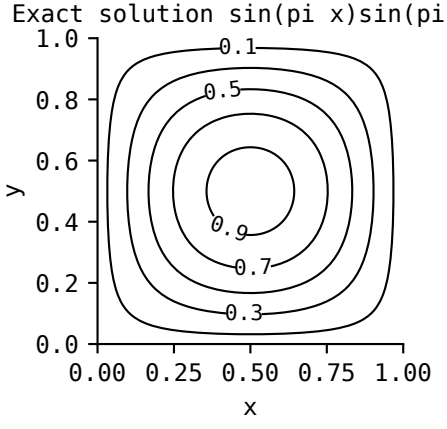
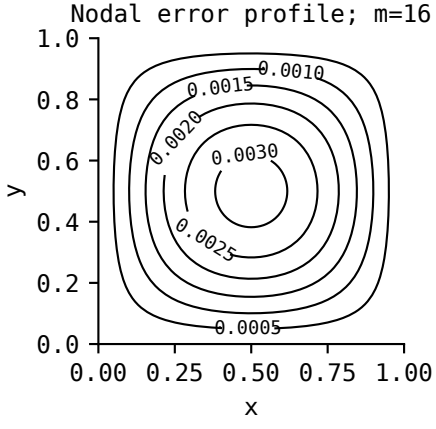
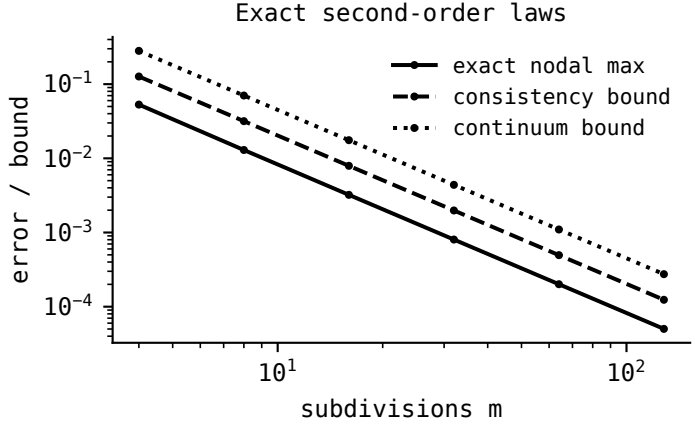
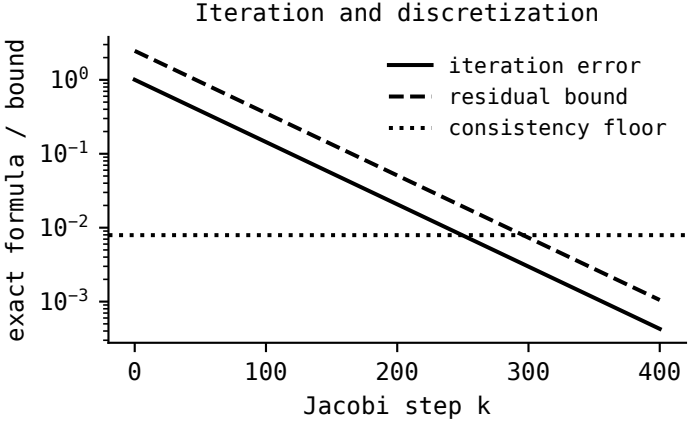

Exact solution sin(pi x)sin(pi y)
1.0
0.8
0.6
0.4
0.2
0.0
y
0.00 0.25 0.50 0.75 1.00
x
0.1
0.5
0.9
0.7
0.3


Nodal error profile; m=16
1.0
0.8
0.6
0.4
0.2
0.0
y
0.00 0.25 0.50 0.75 1.00
x
0.0010
0.0015
0.0020
0.0030
0.0025
0.0005


Exact second-order laws
error / bound
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{1}
10^{2}
subdivisions m
exact nodal max
consistency bound
continuum bound


Iteration and discretization
exact formula / bound
10^{0}
10^{-1}
10^{-2}
10^{-3}
0
100
200
300
400
Jacobi step k
iteration error
residual bound
consistency floor