Exercise # 3. Numerical Solution of the Poisson Problem.

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1 intro

2 Results
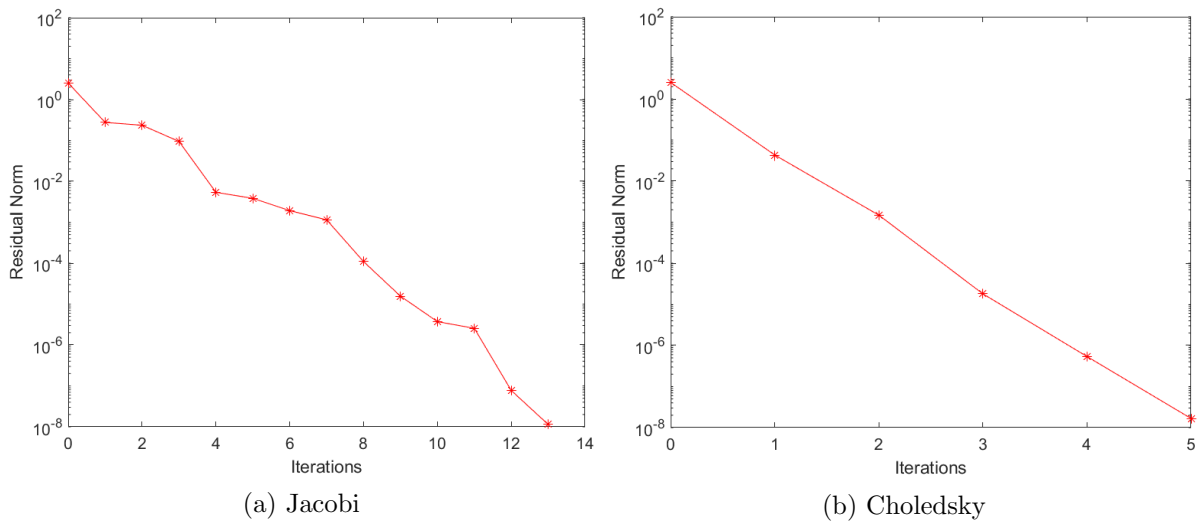
Level 0

(a) Jacobi   (b) Choledsky

Figure 1: Convergence plots for level 0
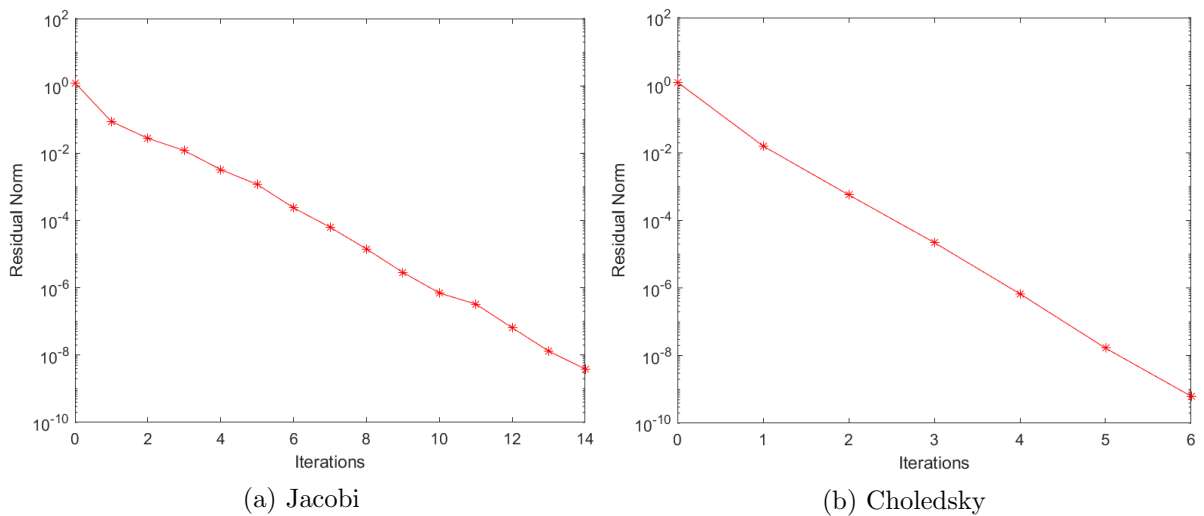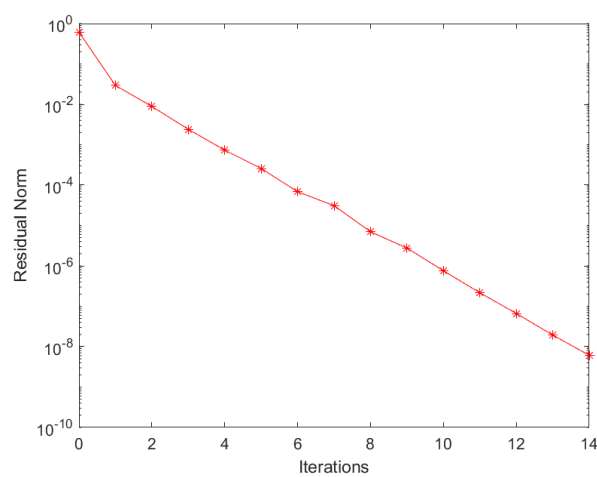
Level 1

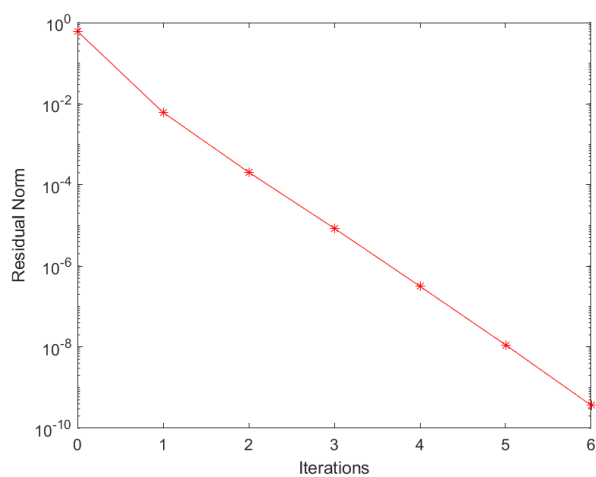(a) Jacobi   (b) Choledsky

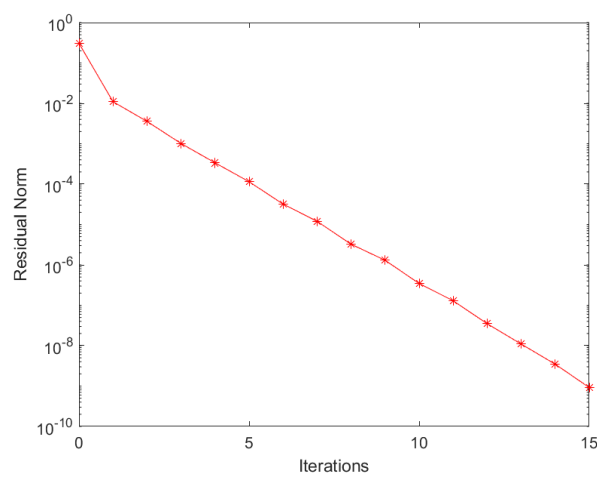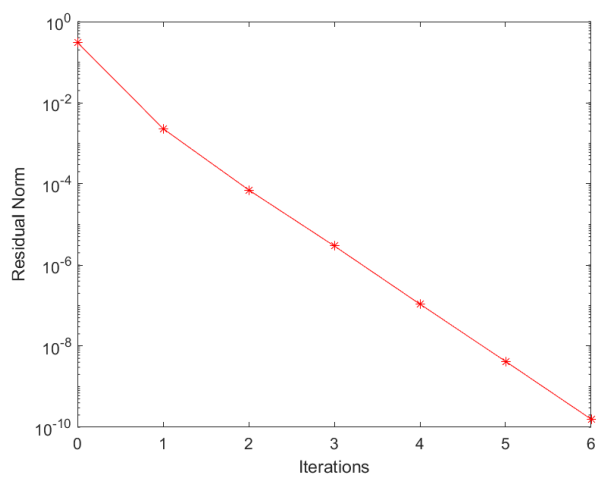Figure 2: Convergence plots for level 1

Level 2

(a) Jacobi

(b) Choledsky

Figure 3: Convergence plots for level 2

Level 3

(a) Jacobi

(b) Choledsky

Figure 4: Convergence plots for level 3
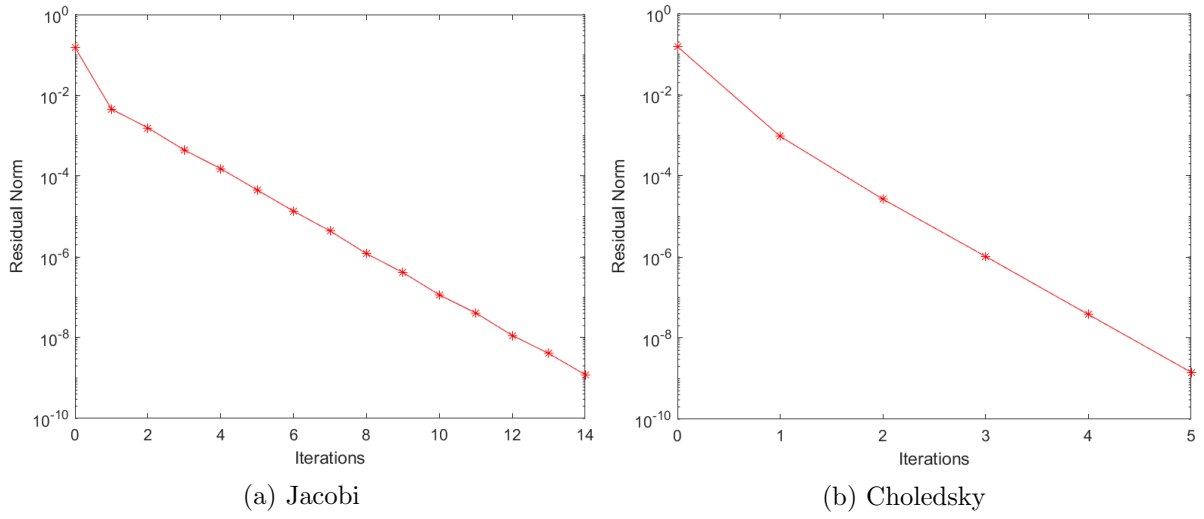
Level 4

(a) Jacobi

(b) Choledsky

Figure 5: Convergence plots for level 4

2.1   Epsilon

Level	ϵ	Error Ratio
0	0.9931	N/A
1	1.0508	1.0581
2	1.0629	1.0115
3	1.0657	1.0026
4	1.0664	1.0007

Table 1: FEM Convergence table

The ϵ value slightly increases on each step of refinement....??