Errata

Understanding and Implementing the Finite Element Method
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(SIAM 2006)

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Note: Positive line numbers start at the top of the page, negative line numbers start at the bottom.

1. Page 90, Line -1: The integral on the right-hand side is missing a factor of $|\det(J(u))|$. The equation should read

$$\int_Q \kappa(z) \nabla \phi_i(z) \cdot \nabla \phi_j(z) \, dz = \int_{S_n} \kappa(F(u)) \left(J(u)^{-T} \nabla \gamma_i(u)\right) \cdot \left(J(u)^{-T} \nabla \gamma_j(u)\right) |\det(J(u))| \, du.$$

2. Page 167, Algorithm 7.1:
   - Line 10: $T.Edges(eptr(2,2))$ should be $T.Edges(eptr(2),2)$
   - Line 12: $T.Edges(eptr(2,1))$ should be $T.Edges(eptr(2),1)$

3. Page 172, Algorithm 7.5:
   - Line 10: nonzero should be negative

4. Page 225, Chapter 10: This chapter fails to give any suggestions for further reading about direct methods for sparse systems. An up-to-date treatment that just appeared is Direct Methods for Sparse Linear Systems by Timothy A. Davis (SIAM, 2006).

5. Page 334, Section 15.2: The explicit residual indicator described in this section is due to Ainsworth and Oden (see Section 2.2 of A Posteriori Error Estimation in Finite Element Analysis by Mark Ainsworth and J. Tinsley Oden, reference [2] in the bibliography). The citation was inadvertently omitted.