5.1.7 Exam: Gaussian elimination

Bookmark this page

Exams due Aug 30, 2023 05:00 IST Completed

Problem: Complete the backward substitution

3.0/3.0 points (graded)

A linear system of three equations is given by,

$$Ku = f \tag{5.11}$$

where K is a 3×3 matrix and u and f are column vectors of length 3.

Gaussian elimination (without any pivoting) is being applied to solve this system. At the end of the forward elimination process, the augmented matrix for this linear system is,

$$\begin{pmatrix} 2. & -1. & 3. & 6. \\ 0. & 5. & 7. & 6. \\ 0. & 0. & -4. & 8. \end{pmatrix} \tag{5.12}$$

Solve for $u = [u_0, u_1, u_2]^T$ by performing the backward substitution on this augmented matrix.

What is the value of u_0?

8 ✔ Answer: 8

What is the value of u_1?

4 ✔ Answer: 4

What is the value of u_2?

-2 ✔ Answer: -2

Submit

Answers are displayed within the problem

‹ Previous Next ›

edX

About
Affiliates
edX for Business
Open edX
Careers
News

Legal

Terms of Service & Honor Code
Privacy Policy
Accessibility Policy
Trademark Policy
Sitemap
Cookie Policy
Your Privacy Choices

Connect

Idea Hub
Contact Us
Help Center
Security
Media Kit