MA162 Russell Brown

Project Description

In this project, you are asked to write a description of the Gauss-Jordan algorithm for solving linear equations. You should assume that the reader of your description knows about systems of linear equations and the row or equation operations that we discussed in class. Thus, your goal is to indicate which equation operations need to be carried out in the Gauss-Jordan method. Please note that you are to describe the Gauss-Jordan method and not some other the method. The purpose of this project is to make sure that each student in the class knows the Gauss-Jordan algorithm. This algorithm and its variants are one of the most important computational tools in mathematics.

What I expect: You should work in a group, if possible. I suggest groups of 2 to 4 students. Each group should turn in a written report which will be 2 to 5 pages long. I do not require that it be typed. (In fact, typing mathematics is a very difficult task due to the peculiar ways that equations are formatted. Thus, I suggest that you prepare a handwritten report.) Your report should include a complete description of the Gauss-Jordan algorithm, supplemented by a completely worked out example. Your example must illustrate why switching rows is sometimes necessary. You must choose if you wish to write a narrative description, give a list of steps or some combination of the two.

Grading: You will be graded on your writing and the correctness and clarity of your description. As indicated above, your example must illustrate why switching rows is sometimes necessary. Of course, points will be deducted for errors in grammar, spelling and arithmetic. All students in a group will receive the same grade.

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