groupproject

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Contents

1 Summary of Problem Specification

1.1 Abstract

Write a program that reads two 3×3 matrices from file and computes the sum and product of the two matrices. Then, find the transpose, cofactor matrix, and determinant of the two resultant matrices. Then, find the inverse of the first matrix, and multiply it by the the first column of the second matrix. Finally, compute the standard deviation of the diagonal elements of the two inputted matrices. All input and output should be stored in files.

2 Formulae

3 Explanation of Main Class

4 Explanation of Matrix Class

5 Notes

5.1 A Note About the Methods

Instead of using matrix.length and matrix[i].length in all of the for loops, I've decided to use the constant 3, because this project deals only with matrices of the third order. I believe that using a constant instead of referencing the size of the array (which in of itself requires passing the array to another method and having java tally the length) provides a meaningful speedup.

```
public void static main(String args[])
```

6 References

http://download.java.net/java/jdk9/docs/api/