C++ Homework

MAT5939-04 - Instructor: Pierre Garreau
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Department of Mathematics - Florida State University

Guidelines

To complete this assignment you must hand in a report including:

1. Title
   - The name of the homework assignment. Ex. “Bisection Method”

2. Description of Problem
   - Description of the problem with a discussion of relevant mathematics. Ex. Explain how and why the bisection method works. Be specific and include a few steps worked out by hand with explanations of each step.

3. Description of the Program
   - Description of your program which describes the algorithm you used and details your implementation. Ex. Explain how you implement the bisection method. You may also copy the relevant piece of code to help explain your implementation.

4. Results and Conclusions
   - Discussion of the results including any tables or figures needed. Ex. Tell me all the roots for the two equations with error bounds. You must also explain why you believe the answer is correct. The correct answer alone is not enough, you have to convince me that it is correct to get credit for it.

5. Program Listing
   - Include all your source code, makefiles and instructions on how to execute your code.

You must also email me your source code, makefiles and instructions on how to execute your code.

- Email me at pgarreau@math.fsu.edu
- Include [MAT5939-04] in the subject line of the email.
7 Matrix Class

Write a matrix class which includes at least the following items

1. A constructor that accepts the number of rows and columns as arguments.
2. A function to overload the \( () \) operator so \( A(i,j) \) refers to the element in the \( i \)th row and \( j \)th column of the matrix.
3. A matrix multiplication function which overloads the \( * \) operator.
4. A matrix addition function which overloads the \( + \) operator.
5. A formatted output function which overloads the \( << \) operator.
6. An \( \infty \)-norm function.
7. A function that returns the transpose the matrix.
8. A destructor.

Be sure to save this file when done. The next homework assignment will add on to this module.