Advanced Programming

Lab # 1: Matrix Calculator

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Documentation:

The project consists of 6 files

1. Matrix.java
2. MatrixHelper.java
3. MatrixCal.java
4. Test\_add\_3\_matrices.java
5. Test\_multiply\_2\_matrices\_add\_3rd\_Matrix.java
6. Test\_multiply\_two\_matrices.java

**GitHub Link:**

[**https://github.com/shumail92/CS213-Advanced-Programming/tree/master/Lab-1-MatrixCalculator**](https://github.com/shumail92/CS213-Advanced-Programming/tree/master/Lab-1-MatrixCalculator)

## Matrix.java

This file is class file for matrix with attributes for matrix like number of rows, number of columns, an 2D-Integer array for storing matrix values, setter getters, functions for taking inputs, printing matrices, and initializing class members.

## MatrixHelper.java

This file is helper class with 3 functions:

**public Matrix addMatrices(Matrix a, Matrix b);**

Function for adding matrices

**public Matrix subtractMatrices(Matrix a, Matrix b);**

function for subtracting matrices

**public Matrix multiplyMatrices(Matrix a, Matrix b);**

function for multiplying matrices

## MatrixCal.java

This file is contains the function for reading data from file, and parsing it to prepare matrices and stores it in ArrayList of Matrices.

## Matrices.txt

This file is text file with matrices data from which program reads the values and loads matrices into the global arraylist of matrices

**Note: Code is thoroughly commented for and all detail is mentioned against the relevant lines**