Project name: Efficient Matrix Data Structure (AKA EMDS if you are feeling fancy)

Plan: Create a matrix data type class with usual matrix operations which would be the methods of the class but for this project, the operations would be done using the idea of asynchronous and parallelism for faster and more efficient runtime performances.

Goal / How will I measure success:

- Have a greater understanding of OOP & Functional Programming in Scala.
- Improve general linear algebra knowledge.
- Sharpen skills in multithreading and asynchronous programming.
- Able to implement a simple data structure with working and efficient matrix operations with clean and readable code.
- Able to Implement most of the complicated operations in parallel or asynchronous

Matrix operations that are planned to be implemented / Rough plan:

- addition = add two matrices
- multiplication = multiply two matrices
- transpose = transpose a matrix
- isSymmetric = is a matrix symmetric
- isSkew = is a matrix skew
- trace = find the trace of a matrix
- determinant = find the determinant of a matrix
- entryAt(x,y) = get an element of a matrix on row y column x
- isInvertible = is the matrix invertible
- inverse = find the inverse of a matrix
- createIdentity(n) = create identity matrix with certain size

Application / Areas where this can be used for greater performance:

- Video games.
- Rendering 3D simulations.
- Research in various science fields