1. Define matrix dimensions, data pointers, and methods for memory management, element manipulation, and operator overloading.
2. Inherit from Matrix and add methods to ensure the matrix is square and to calculate its determinant.
3. Set the random seed and prompt the user for the rank of the linear equation system.
4. Create the square matrix A and vector C based on user input, and fill them with random values.
5. Output the contents of matrix A and vector C formatted for readability.
6. Calculate the determinant of A, and use Cramer's rule to find the solution vector X if the determinant is non-zero.
7. Check if substituting X back into the equations yields results close to C, and output verification results.