Problem

During the construct process of my program, I had met two main problems. First, the constructing of determinant function in square matrix file. The problem is that I was stuck by the transformation between cofactor square matrix and the determinant value. Second, the replacement a column in a matrix with a vector. It's about how to choose only a column in a matrix but not the entire square matrix.

How I develop my program

First, I develop the matrix.cpp with matrix constructor, function like getrow and setSize and some operators to define the input, output, addition, subtraction and multiplication. Second, I develop the vector.cpp with vector constructor and vector replacement function. Third, I develop the smatrix.cpp with smatrix constructor and determinant function. And in the linear equation system solver.cpp, I define a function called setMatrix, which let the element of the matrix is random float number between 0 and 1. In the main program, I first define the matrix, square matrix and double number that need to be used. Then, I print out the coefficient matrix and constant vector and calculate the solution vector. Finally, print our the solution vector and the complete the verify process.