1. Gauss-Jordan Method

Gauss-Jordan method is base on elimination, I use built-in function “ rref ” to calculate the answer to Ax = b. The complexity of Gauss-Jordan is O(n^3).

2. Cofactor Method

Cofactor method use determinant to calculate the inverse matrix A^(-1). In each element of inverse matrix, it needs to calculate the minor determinant which size is n - 1. And the following determinant needs (n - 1) * smaller determinant which size if n - 2. Recursively to size 1. So the complexity of cofactor method is O(n!) which is not polynomial.

Note: Because of the time consuming, I modify the size of matrix to 50, 100, 200, 300, 400.