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MATH1080
Coding Assignment #4

Below are the results of the accuracy in both LU factorizations using Gaussian elimination with pivoting and using Cholesky decomposition. The matrix used was matrix A provided in the coding assignment description. Clearly, the relative accuracy term of Cholesky is higher than Gauss without pivoting, so it's slightly less accurate. In fact, Gauss pivot is roughly 7.5 times more accurate. Comparatively, we can recall in the previous coding assignment that Gauss with pivoting was about 39601 times more accurate than non-pivoting, so we can see the two algorithms are both very good approximations of the factorizations compared to Gauss without pivoting.

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>> driver
Gauss Pivot Relative Accuracy:
   1.9487e-17

Cholesky Relative Accuracy:
   1.4520e-16
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