Math 4353/5393 – Numerical Linear Algebra   Spring 2024
Program 3   Due Wednesday, April 10, 2024

1. Write the subroutine cgs to compute the Gram-Schmidt QR factorization. cgs.m should have as its first line:
   function [Q,R] = cgs(A)
   It should implement the classical Gram-Schmidt QR factorization.

2. Write the subroutine mgs to compute the Gram-Schmidt QR factorization. mgs.m should have as its first line:
   function [Q,R] = mgs(A)
   It should implement the modified Gram-Schmidt QR factorization (this could be the row-version (G&VL) or the column-version (in class/my pdfs).

3. Hand in and email me cgs.m, mgs.m, and the output from NLAProg3Test.m (prog3run.txt).

   Notes:

   (a) Be careful not to divide by something too small.

   (b) You should understand what the test code is doing.

   (c) Remember to document your code. This means using comment lines to describe all input and output variables, and to describe what the code is doing when it is not obvious to the uninitiated.