

Homework I

Deadline: 2017-10-18

1. (10 pts) Write your own MATLAB codes to compute the product of two matrices \mathbf{A} and \mathbf{B} based on the definition. Test the correctness of your codes by comparing the output of your codes with that of the MATLAB `*` function on randomly generated matrices.
2. (15 pts) Write your own MATLAB codes to compute the one-norm, two-norm and ∞ -norm of a vector \mathbf{x} , respectively, based on the definitions. Test the correctness of your codes by comparing the output of your codes with that of the MATLAB `norm` function on randomly generated vectors.
3. (20 pts) Write your own MATLAB codes to compute the one-norm and ∞ -norm of a matrix \mathbf{A} , respectively, based on the definitions. Test the correctness of your codes by comparing the output of your codes with that of the MATLAB `norm` function on randomly generated matrices.