Python and Mathematics for Machine Learning

Linear Algebra

The following assignment supplements the Linear Algebra Units

Please download the reference script from the shared files provided in this course. Please note in the instructions that you are not allowed to import any “helper” libraries such as NumPy, pandas, etc. Your script MUST pass the embedded doctest module. You may start with the provided reference script or create one for yourself. Make sure the doctest module works for the test conditions provided.

Notes and Hints:

- It is recommended you make copies of the initialized vectors and matrices so that you can restore the original values if a calculation in one of the functions updates it.
- To create an empty 2d array ‘A’, you can use the following code:
    - *tempMat = [[0 for i in range(len(A))] for j in range(len(A[0]))]*
- Note that multiplying a python list by n will duplicate the elements in that array n times
- To multiply matrices recall that an mxn matrix multiplied by an nxp results in an mxp size matrix. Also recall that for an element (Row i, Column j) in a resultant matrix, you need to sum the product of the first matrix Row I by the 2nd matrix Column j, etc.
- Please reference the unit lectures for details on operations with special vector and matrices.