Project 4 Instructions

Part I:

The Jupyter notebook contains code to randomly generate a matrix A. Come up with a message of length at least 10 (including interior spaces). Write this message in a comment line (starting with #). Make a matrix B that contains the message in numeric format, where 0=space, 1=a, 2=b, …, 25=y,and 26=z.

Your matrix B should have an appropriate number of rows and columns so that you can multiply A times B. In the discussion area, post your matrix A and your matrix AB. **DO NOT** post the original message or the original message matrix B. You will be asked to decrypt each other's messages in the second half of this project. Upload your notebook and a pdf printout in the submissions area.

Part II:

Decrypt at least four messages from the discussion board. Use the posting student's first name for their matrix A and the posting student's last name for their matrix AB. Find their matrix B and then translate the numeric message into words.

Note:

A simple substitution cipher can often be cracked by looking at the frequency of the digits. Multiplying B by another matrix makes attacks by frequency analysis harder.