

Homework 8, due September 22

- (1) The following ciphertext was encrypted by a Hill cipher with matrix

$$\begin{bmatrix} 1 & 0 & 5 \\ 7 & -1 & 9 \\ 4 & 6 & 3 \end{bmatrix}.$$

WPAQWIFWONUUKGICEHIQW

Decrypt.

- (2) The following two ciphertexts were encrypted with the same one time pad (modulo 26). Decrypt. If you are stuck, shift the words svefg, zrffntr, and puncgref by 13; these words appear in the plaintexts.

CREWHBLIVZWGFEOFCLAGQDJCBPRSIUGJWQDMPVUSTZTEUCCPWTNNLSXLCKTABGWBULNSOIIGZP

NTTCNJMKLEQQIUQVVKTDGPFIXNHAJLFENAPPMAROIMPXTXTFJWGPCNOCOCYMMPPMAKQSFGBMBQFK

- (3) A sequence generated by a length three recurrence starts 100101. Find the next four elements of the sequence.