1. Suppose you encrypt using an affine cipher, then encrypt the encryption using another affine cipher (both are working mod 26). Is there any advantage to doing this, rather than using a single affine cipher? Why or why not?
2. Suppose we modify the Feistel setup as follows. Divide the plaintext into three equal blocks: \(L_0, M_0, R_0\) (left, middle, right). Let the key for the \(i\)th round be \(K_i\) and let \(f\) be some function that produces an appropriate size output. The \(i\)th round of encryption is given by 
\[
L_i = R_{i-1}, \quad M_i = L_{i-1}, \quad R_i = f(K_i, R_{i-1}) \oplus M_{i-1}.
\]
This continues for \(n\) rounds. Consider the decryption algorithm that starts with the ciphertext \(A_n, B_n, C_n\) and uses the algorithm 
\[
A_{i-1} = B_i, \quad B_{i-1} = f(K_i, A_i) \oplus C_i, \quad C_{i-1} = A_i.
\]
This continues for \(n\) rounds, down to \(A_0, B_0, C_0\). Show that \(A_i = L_i, B_i = M_i, C_i = R_i\) for all \(i\), so that the decryption algorithm returns the ciphertext.