

Introduction to Cryptography

Homework 1

September 15, 2006

1. Solve the following cryptogram encrypted with a simple substitution cipher. **Explain your first steps.**

LIVITCSWPIYVEWHEVSRIQMXYVEOIEWHRXEXIPFEMVEWHKVSTYLXZIXLIKII
XPIJVSZEYPERRGERIMWQLMGLMXQERIWGPSRIHMXQEREKIETXMJTPRGEVEKEIT
REWHEXXLEXMZITWAWSQXSWEXTVEPMRXRSJGSTVRIEYVIEXCVMUIMWERMGIW
XMJMGCMSWXSJOMIQXLIVIQIVIXQSVSTWHKPEGARCSXRWIEVSWIIBXVIZMXFSJ
XLIKEGAEWHEPSWYSWIWIEVXLISXLIVXLIRGEPHQIRQIVIIIBGIIHMWYPFLEVHEWH
YPSRRFQMXLEPPXLIIECCIEVEWGISJKTVWMRLIHYSPLIQIMYLSJXLIMWRIGX
QEROIVFVIZEVAEKPIEWHXEAMWYEPXLMWYRMWXSGSWRMHIVEXMSWGMSTPHLEV
HPFKPEZINTCMXIVJSVLMRSCMWSWVIRCIGXMWYMX

A frequency analysis shows that the most frequent letter is I, the most frequent two-letter combination is XL, and the most frequent triple XLI. Use this information to decrypt the cipher text.

2. Solve the RSA-129 problem on the course web page.
3. Read the RSA article on wikipedia.