Reading: Read Chapters 1, 2, and 3, skipping section 2.2 and only skimming 2.1, 3.4, and 3.5. Come with a list of questions; we've covered most of the things in these sections, but the overlap isn't perfect.

1. (Problem 4.1 from Churchhouse). Decrypt the following message; the plaintext is the first line of a Shakespearean sonnet. There is reason to believe a Box Cipher has been used; the box is probably 5×6 or 6×5. (In particular, the key length is either 5 or 6.) Punctuation and spaces have been ignored.

   LPEUD SCEOE LAEMA AMHSS HOTAR IRTMY

2. Decrypt the anagrams "TSAALPEN" and "EPSILTP" *using the contact-method.* Make sure to describe which bigrams you are including (or excluding).

3. Convert the following "multiplications" into cycle notation and find the products. Also find the orders of the resulting products.

$$
\begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ 2 & 5 & 4 & 7 & 1 & 3 & 6 \end{pmatrix} \times \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ 7 & 4 & 5 & 2 & 3 & 6 & 1 \end{pmatrix}
$$

$$
\begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ 6 & 4 & 5 & 3 & 1 & 2 & 7 \end{pmatrix} \times \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ 3 & 4 & 5 & 6 & 1 & 7 & 2 \end{pmatrix}
$$