

1. **Double Transposition Cipher:** Use two keywords to do a tabular transposition cipher twice.

Encryption Steps

- i. Write the plaintext in **rows** using Keyword 1.
 - ii. Rewrite columns with Keyword 1 in alphabetical order.
 - iii. Read off the **columns** to form the new “plaintext”.
 - iv. Repeat this process with Keyword 2.
2. **Example:** Encrypt the word **TRANSPOSITION** using double transposition with
Keyword 1: **KEY** and Keyword 2: **SHORT**.

3. How is this different from the tabular transposition with keyword encryption method we used earlier?

4. Decryption:

- i. Make four grid headers: Keyword 2 (alphabetical order), Keyword 2 (natural order), Keyword 1 (alphabetical order), Keyword 1 (natural order).
 - ii. Count the number of characters in the ciphertext and determine grid dimensions.
 - iii. Starting with Keyword 2 (alphabetical) grid, fill **columns**.
 - iv. Copy columns into the grid for Keyword 2 (natural order).
 - v. Read off the **rows** to find new ciphertext.
 - vi. Repeat (iii) with Keyword 1 (alphabetical).
5. Decrypt the ciphertext from problem 2. (We know it should decrypt as TRANSPOSITION!)

6. Decrypt the ciphertext E T E T S P I H X C R assuming it was encrypted using the scheme above.